

SEQUENCE LISTING

(1) GENERAL INFORMATION

(i) APPLICANT: Bristol-Myers Squibb Co.

(ii) TITLE OF THE INVENTION:

A METHOD FOR INHIBITING
IMMUNOGLOBULIN-INDUCED TOXICITY FROM THE USE OF
IMMUNOGLOBULINS IN THERAPY AND IN VIVO DIAGNOSIS

(iii) NUMBER OF SEQUENCES: 13

(iv) CORRESPONDENCE ADDRESS:

(A) ADDRESSEE: Merchant & Gould
(B) STREET: 11150 Santa Monica Blvd., Suite 400
(C) CITY: Los Angeles
(D) STATE: CA
(E) COUNTRY: USA
(F) ZIP: 90025

(v) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Diskette
(B) COMPUTER: IBM Compatible
(C) OPERATING SYSTEM: DOS
(D) SOFTWARE: FastSEQ Version 2.0

(vi) CURRENT APPLICATION DATA:

(A) APPLICATION NUMBER: PCT/US97/_____
(B) FILING DATE: 01-AUG-1997
(C) CLASSIFICATION:

(vii) PRIOR APPLICATION DATA:

(A) APPLICATION NUMBER: 60/023,033
(B) FILING DATE: 02-AUG-1996

(viii) ATTORNEY/AGENT INFORMATION:

(A) NAME: Adriano, Sarah B
(B) REGISTRATION NUMBER: 34,470
(C) REFERENCE/DOCKET NUMBER: 30436.43WOU1

(ix) TELECOMMUNICATION INFORMATION:

(A) TELEPHONE: 310-445-1140
(B) TELEFAX: 310-445-9031
(C) TELEX:

(2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 36 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

5 TGGCACCGAA AGCTTTCTGG GGCAGGCCAG GCCTGA 36

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

10 (A) LENGTH: 57 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

15 (ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

20 TCCGGACATG TTGGTACCCA CGTGGTGGTC GACGCTGAGC CTGGCTTCGA GCAGACA 57

(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:

25 (A) LENGTH: 55 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

30 (ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

35 GTCGACCACC ACGTGGGTAC CAACATGTCC GGAGCCACAT GGACAGAGGC CGGCT 55

(2) INFORMATION FOR SEQ ID NO:4:

(i) SEQUENCE CHARACTERISTICS:

40 (A) LENGTH: 30 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

45 (ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

50 CTGGTTCTTG TTCATCTCCT CTCTAGATGG 30

(2) INFORMATION FOR SEQ ID NO:5:

(i) SEQUENCE CHARACTERISTICS:

55 (A) LENGTH: 36 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

ACCATGGTCG ACCTCAGACC TGCCAAGAGC CATATC

36

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 39 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

CATGGTCACG TGGTGTGTCC CTGGATGCAG GCTACTCTA

39

(2) INFORMATION FOR SEQ ID NO:7:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 49 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

CAGGGAGGGA GGGTGTCTGC TGGAAGCCAG GCTCAGCGCT GACCTCAGA

49

(2) INFORMATION FOR SEQ ID NO:8:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 50 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

GGAAAGAACC ATCACAGTCT CGCAGGGGCC CAGGCAGCG CTGGGTGCTT

50

(2) INFORMATION FOR SEQ ID NO:9:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 8691 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

GACGGATCGG GAGATCTGCT AGGTGACCTG AGGCGCGCCG GCTTCGAATA GCCAGAGTAA
CCTTTTTTTT TAATTTTATT TTATTTTATT TTTGAGATGG AGTTTGGCGC CGATCTCCCG

60

120

	ATCCCCATATG	GTCGACTCTC	AGTACAATCT	GCTCTGATGC	CGCATAGTTA	AGCCAGTATC	180
	TGCTCCCTGC	TTGTGTGTTG	GAGGTCGCTG	AGTAGTGCGC	GAGCAAAATT	TAAGCTACAA	240
	CAAGGCAAGG	CTTGACCGAC	AATTGCATGA	AGAATCTGCT	TAGGGTTAGG	CGTTTTGCGC	300
5	TGCTTCGCGA	TGTACGGGCC	AGATATACGC	GTTGACATTG	ATTATTGACT	AGTTATTAAT	360
	AGTAATCAAT	TACGGGGTCA	TTAGTTTCATA	GCCCCATATAT	GGAGTTCCTG	GTTACATAAC	420
	TTACGGTAAA	TGGCCCCCTT	GGCTGACCGC	CCAACGACCC	CGGCCCATTG	ACGTCAATAA	480
	TGACGTATGT	TCCCATACTA	AGCCCAATAG	GGACTTTCCA	TTGACGTCAA	TGGGTGGACT	540
	ATTTACGGTA	AAC TGCCCTC	TTGGCAGTAC	ATCAAGTGTA	TCATATGCCA	AGTACGCCCC	600
	CTATTGACGT	CAATGACGGT	AAATGGCCCC	CCTGGCATTG	TGCCCAGTAC	ATGACCTTAT	660
10	GGGACTTTCC	TACTTGGCAG	TACATCTACG	TATTAGTCAT	CGCTATTACC	ATGGTGATGC	720
	GGTTTTGGCA	GTACATCAAT	GGGCGTGGAT	AGCGGTTTGA	CTCACGGGGA	TTTCCAAGTC	780
	TCCACCCCAT	TGACGTCAAT	GGGAGTTTGT	TTTGGCACCA	AAATCAACGG	GACTTTCCAA	840
	AATGTCGTAA	CAACTCGCC	CCATTGACG	AAATGGGCGG	TAGGCGTGTA	CGGTGGGAGG	900
	TCTATATAAG	CAGAGCTCTC	TGGCTAACTA	GAGAAGCCAC	TGCTTACTGG	CTTATCGAAA	960
15	TTAATACGAC	TCACTATAGG	GAGACCCAAG	CTTGGTACCA	ATTTAAATTG	ATATCTCCTT	1020
	AGGTCTCGAG	TCTCTAGATA	ACCGGTCAAT	CGATTGGAAT	TCTTGCGGCC	GCTTGCTAGC	1080
	CACCATGGAG	TTGTGGTTAA	GCTTGGTCCT	TCCTTGTCCT	TGTTTTAAAA	GGTGTCCAGT	1140
	GTGAAGTGAA	TCTGGTGGAG	TCTGGGGGAG	GCTTAGTGCA	GCCTGGAGGG	TCCCTGAAAG	1200
20	TCTCTGTGT	AACCTCTGGA	TTCACTTTCA	GTGACTATTA	CATGATTATG	GTTCCGCAGA	1260
	CTCCAGAGAA	GAGGCTGGAG	TGGGTGCGAT	ACATTAGTCA	AGGTGGTGAT	ATAACCGACT	1320
	ATCCAGACAC	TGTAAAGGGT	CGATTCAACA	TCTCCAGAGA	CAATGCCAAG	AACACCCGTG	1380
	ACCTGCAAAT	GAGCCGTCTG	AAGTCTGAGG	ACACAGCCAT	GTATTACTGT	GCAAGAGGCC	1440
	TGGACGACGG	GGCCTGGTTT	GCTTACTGGG	GCCAAGGGAC	TCTGGTCAAG	GTCTCTGTAG	1500
25	CTAGACCAAA	GGGCCCATCG	GTCTTCCCCC	TGGCACCCCT	CTCCAAGAGC	ACCTCTGGGG	1560
	GCACAGCGGG	CCTGGGCTGC	CTGGTCAAGG	ACTACTTCCC	CGAACCGGTA	ACGGTGTCTG	1620
	GGAATCTCAG	CGCCCTGACC	AGCGGCGTGC	ACACCTTCCC	GGCTCTGCTA	CAGTCTCTAG	1680
	GACTCTACTC	CCTCAGCAGC	TGGTTCACCG	TGCTCTCAG	CAGCTTGGGC	ACCCAGACCT	1740
	ACATCTGCAA	CGTGAATCAC	AAGCCCAGCA	ACACCAAGGT	GGACAAGAAA	GTTGGTGAGA	1800
30	GGCCAGCACA	GGGAGGGAGG	GTGTCTGCTG	GAAGCCAGGC	TCAGCGCTCC	TGCCTGGACG	1860
	CATCCCGGCT	ATGCAGCCCC	AGTCCAGGGC	AGCAAGGCAG	GCCCCGTCTG	CCTCTTCACC	1920
	CGGAGGCCTC	TGCCCCCCCC	ACTCATGCTC	AGGGAGAGGG	TCTTCTGGCT	TTTTCCCCAG	1980
	GCTCTGGGCA	GGCAGAGGCT	AGGTGCCCTT	AACCCAGGCC	CTGCACACAA	AGGGGACAGT	2040
	CTTGGGCTCA	GACCTGCCAA	GAGCCATATC	CGGGAGGACC	CTGCCCTGTA	CCTAAGCCCA	2100
35	CCCCAAAGGC	CAAACCTCTC	ACTCCCTCAG	CTCGGACACC	TTCTCTCTCT	CCAGATTCCA	2160
	GTAAC TCCA	ATCTTCTCTC	TGCAGAGCCC	AAATCTTTGT	ACAAAAC TCA	CACATGCCCA	2220
	CCGTGCCCAG	GTAAGCCAGC	CCAGGCCTCG	CCCTCCAGCT	CAAGGCGGGA	CAGGTGCCCT	2280
	AGAGTAGCCT	GCATCCAGGG	ACAGGCCCCA	GCCGGGTGCT	GACACGTCCA	CCTCCATCTC	2340
	TTCTCAGCA	CCTGAACTCC	TGGGGGGACC	GTGAGTCTTC	CTCTTCCCCC	CAAAACCCAA	2400
40	GGACACCTC	ATGATCTCCC	GGACCCCTGA	GTCACATGCT	GTGGTGGTGG	ACGTGAGCCA	2460
	CGAAGACCTT	GAGGTCAAGT	TCAACTGGTA	CGTGACGGC	GTGGAGGTGC	ATAATGCCAA	2520
	GACAAAGCCG	CGGGAGGAGC	AGTACAACAG	CACGTACCGT	GTGGTCAGCG	TCCTCACCGT	2580
	CCTGCACCAG	GACTGGCTGA	ATGGCAAGGA	GTACAAGTGC	AAGGTCTCCA	ACAAAGCCCT	2640
	CCCAGCCCCC	ATCGAGAAAA	CCATCTCCAA	AGCCAAAGGT	GGGACCCGTG	GGGTGCGAGG	2700
45	GCCACATGGA	CAGAGGCCGG	CTCGGCCAC	CCTCTGCCCT	GAGAGTGACC	CGTGTACCAA	2760
	CCTCTGTCCC	TACAGGGCAG	CCCCGAGAAC	CACAGGTGTA	CACCTTGCCC	CCATCCCGGG	2820
	ATGAGCTGAC	CAAGAAGCAG	GTCAGCCTGA	CTCGCTTGCT	CAAAGGCTTC	TATCCCAGCG	2880
	ACATCGCCGT	GGAGTGGGAG	AGCAATGGGC	AGCCGGAGAA	CAACTACAAG	ACCACGCCCT	2940
	CCGTGCTGGA	CTCCGACGGC	TCCTTCTTCC	TCTACAGCAA	GCTCACCCTG	GACAAGAGCA	3000
50	GGTGGCAGCA	GGGGAACGTC	TTCTCATGCT	CCGTGATGCA	TGAGGCTCTG	CACAACCACT	3060
	ACACGCAGAA	GAGCCTCTCC	CTGTCTCCGG	GTAATGAGT	GCGACGGCCG	GCAAGCCCCC	3120
	GCTCCCCGGG	CTCTCGCGGT	CGCACGAGGA	TGCTTGGCAC	GTACCCCTGT	TACATACTTC	3180
	CCGGGCGCCC	AGCATGGAAA	TAAAGCACCC	AGCGCTGCC	TGGGCCCCCT	CGAGACTGTG	3240
	ATGGTTCTTT	CCACGGGTCA	GGCCGAGTCT	GAGGCCTGAG	TGGCATGAG		

	AACCGACTCC	GGGGACATGC	ACTCTCGGGC	CCTGTGGAGG	GACTGGTGCA	GATGCCCACA	3720
	CACACACTCA	CCCCAGACCC	GTTCAACAAA	CCCCGCACTG	AGGTTGGCCG	GCCACACGGC	3780
	CACCACACAC	ACACGTGCAC	GCCTCACACA	CGGAGCCTCA	CCCGGGCGAA	CTGCACAGCA	3840
5	CCCAGACCAG	AGCAAGGTCC	TCGCACACGT	GAACACTCCT	CGGACACAGG	CCCCCACGAG	3900
	CCCCACGCGG	CACCTCAAGG	CCCACGAGCC	TCTCGGCAGC	TTCTCCACAT	GCTGACCTGC	3960
	TCAGACAAAC	CCAGCCCTCC	TCTCACAAGG	GTGCCCCGTC	AGCCGCCACA	CACACACAGG	4020
	GGATCACACA	CCACGTCACG	TCCCTGGCCC	TGGCCCACTT	CCCAGTGCCG	CCCTTCCCTG	4080
	CAGGACGGAT	CAGCCTCGAC	TGTGCCTTCT	AGTTGCCAGC	CATCTGTTGT	TTGCCCCCTC	4140
	CCCGTGCCTT	CCTTGACCTT	GGAAGGTGCC	ACTCCCACTG	TCCTTTCCTA	ATAAAATGAG	4200
10	GAAATTGCAT	CGCATTGTCT	GAGTAGGTGT	CATTCTATTG	TGGGGGGTGG	GGTGGGGCAG	4260
	GACAGCAAGG	GGGAGGATTG	GGAAGACAAT	AGCAGGCATG	CTGGGGATGC	GGTGGGCTCT	4320
	ATGGCTTCTG	AGGCGGAAAG	AACCAGCTGG	GGCTCTAGGG	GGTATCCCCA	CGCGCCCTGT	4380
	AGCGGCGCAT	TAAGCGCGGC	GGGTGTGGTG	GTTACGCGCA	GCGTGACCGC	TACACTTGCC	4440
	AGCTCCCTAG	CGCCCCGCTC	TTTCGCTTTC	TTCCTTTCCT	TTCTCGCCAC	GTTCCGCCGG	4500
15	CCTCTCAAAA	AAGGGA AAAA	AAGCATGCTA	CTCAATTAGT	CAGCAACCAT	AGTCCGCCCC	4560
	CTAACTCCGC	CCATCCCGCC	CTAACTCCG	CCCAGTTCCG	CCCATTCTCC	GCCCCATGGC	4620
	TGACTAATTT	TTTTTATTTA	TGAGAGGGCC	GAGGCCGCTT	CGGCTCTGTA	GCTATTCCAG	4680
	AAGTAGTGAG	GAGGCTTTTT	TGGAGGCCTA	GGCTTTTGCA	AAAAGCTTGG	ACAGCTCAGG	4740
	GCTGCGATTT	CGCGCCAAAC	TTGACGGCAA	TCCTAGCGTG	AAGGCTGGTA	GGATTTTATC	4800
20	CCCGCTGCCA	TCATGGTTTC	ACCATTGAAC	TGCATCGTCG	CCGTGTCCCA	AAATATGGGG	4860
	ATTGGCAAGG	ACGGAGACCT	ACCCTGGCCT	CCGCTCAGGA	ACGAGTTCAG	GTACTTCCAA	4920
	AGAATGACCA	CAACCTCTTC	AGTGAAGGTG	AAACAGAATC	TGGTGATTAT	GGGTGAGAAA	4980
	ACCTGGTTCT	CCATTCTCTG	GAAGAATCGA	CCTTTAAAGG	ACAGAATTAA	TATAGTTCTC	5040
25	AGTAGAGAAC	TCAAAGAACC	ACCACGAGCA	GCTCATTTTC	TTGCCAAAAG	TTTGGATGAT	5100
	GCCTTAAGAC	TTATTGAACA	ACCGGAATTC	GCAAGTAAAG	TAGACATGGT	TTGGATAGTC	5160
	GGAGGCAGTT	CTGTTTACCA	GGAAGCCATG	AATCAACCAG	GCCACCTTAG	ACTCTTTGTG	5220
	ACAAGGATCA	TGCAGGAATT	TGAAAGTGAC	TCGTTTTTCC	CAGAAATTGA	TTTGGGGAAA	5280
	TATAAACTTC	TCCCAGAATA	CCCAGGCGTC	CTCTCTGAGG	TCCAGGAGGA	AAAAGGCATC	5340
	AAGTATAAGT	TTGAAGTCTA	CGAGAAGAAA	GACTAACAGG	AAGATGCTTT	CAAGTTCTCT	5400
30	GCTCCCCCTC	TAAAGCTATG	CATTTTTATA	AGACCATGGG	ACTTTTGCTG	GCTTTTAGATC	5460
	TCTTTGTGAA	GGAACTTTAC	TTCTGTGGTG	TGACATAATT	GGACAACTA	CCTACAGAGA	5520
	TTTAAAGCTC	TAAGGTAAAT	ATAAAATTTT	TAAGTGTATA	ATGTGTTAAA	CTACTGATTC	5580
	TAATTGTTTG	TGTATTTTAG	ATTCCAACCT	ATGGAATCTG	TGAATGGGAG	CAGTGGTGGA	5640
	ATGCCTTTAA	TGAGGAAAAC	CTGTTTGTCT	CAGAAGTAAT	GCCATCTAGT	GATGATGAGG	5700
35	TCTACTGCTG	CTCTCAACAT	TCTACTCCTC	CAAAAAAGAA	GAGAAAGGTA	GAAGACCCCA	5760
	AGGACTTTCC	TTCAGAATTG	CTAAGTTTTT	TGAGTCATGC	TGTGTTTAGT	AATAGAACTC	5820
	TTGCTTGCTT	TGCTATTTAC	ACCACAAAGG	AAAAAGCTGC	ACTGCTATAC	AAGAAAATTA	5880
	TGGAAAAATA	TTCTGTAAAC	TTTATAAGTA	GGCATAACAG	TTATAATCAT	AACATACGTG	5940
	TTTTTCTTAC	TCCACACAGG	CATAGAGTGT	CTGCTATTAA	TAACATATGCT	CAAAAATTGT	6000
40	GTACCTTTAG	CTTTTTAATT	TGTAAAGGGG	TTAATAAGGA	ATATTTGATG	TATAGTGCCCT	6060
	TGACTAGAGA	CTATAACAG	CCATACCACA	TTTGTAGAGG	TTTTACTTGC	TTTTAAAAAC	6120
	CTCCACACAC	TCCCCCTGAA	CCTGAAACAT	AAAATGAATG	CAATTGTTGT	TGTTAACTTG	6180
	TTTATTGCAG	CTTATAATGG	TTACAAATAA	AGCAATAGCA	TCACAAATTT	CACAAATAAA	6240
	GCATTTTTTT	CACTGCATTG	TAGTTGTGGT	TTGTCCAAAC	TCATCAATGT	ATCTTATCAT	6300
45	GTCTGGATCG	GCTGGATGAT	CCTCCAGCGC	GGGGATCTCA	TGCTGGAGTT	CTTCGCCAC	6360
	CCCAACTTGT	TTATTGCAGC	TTATAATGGT	TACAAATAAA	GCAATAGCAT	CACAAATTTT	6420
	ACAAATAAAG	CATTTTTTTC	ACTGCATTCT	AGTTGTGGTT	TGTCCAAACT	CATCAATGTA	6480
	TCTTATCATG	TCTGTATACC	GTCGACCTCT	AGCTAGAGCT	TGGCGTAATC	ATGGTCATAG	6540
	CTGTTTCTCG	TGTGAAATTG	TTATCCGCTC	ACAATTCCAC	ACAACATACG	AGCCGGAAGC	6600
50	ATAAAGTGTA	AAGCCTGGGG	TGCCTAATGA	GTGAGCTAAC	TCACATTAAT	TGCGTTGCGC	6660
	TCAGTGCCCG	CTTTCCAGTC	GGGAAACCTG	TCGTGCCAGC	TGCATTAATG	AATCGGCCAA	6720
	CGCGCGGGGA	GAGGCGGTTT	GCGTATTGGG	CGCTCTTCCG	CTTCCTCGCT	CACTGACTCG	6780
	CTGCGCTCGG	TCGTTCCGGT	GCGGCGAGCG	GATCAGCTC	ACTCAAAGGC	GGTAATACGG	6840
	TTATCCACAG	AATCAGGGGA	TAACGCAGGA	AAGAACATGT	GAGCAAAAGG	CCAGCAAAAG	6900
55	GCCAGGAACC	GTAAAAAGGC	GCGGTTGCTG	GCGTTTTTCC	ATAGGCTCCG	CCCCCTGAC	6960
	GAGCATCACA	AAAATCGACG	CTCAAGTCAG	AGGTGGCGAA	ACCCGACAGG	ACTATAAAGA	7020
	TACCAGGCGT	TTCCCCCTGG	AAGCTCCCTC	GTGCGCTCTC	CTGTTCCGAC	CCTGCCGCTT	7080
	ACCGGATACC	TGTCCGCCTT	TCTCCCTTCG	GGAAGCGTGG	CGCTTCTCA	ATGCTCACGC	7140
	TGTAGGTATC	TCAGTTCCGT	GTAGGTCGTT	CGCTCCAAGC	TGGGCTGTGT	GCACGAACCC	7200

	CCCGTTCCAGC	CCGACCGCTG	CGCCTTATCC	GGTAACTATC	GTCTTGAGTC	CAACCCGGTA	7260
	AGACACGACT	TATCGCCACT	GGCAGCAGCC	ACTGGTAACA	GGATTAGCAG	AGCGAGGTAT	7320
	GTAGGCGGTG	CTACAGAGTT	CTTGAAGTGG	TGGCCTAACT	ACGGCTACAC	TAGAAGGACA	7380
5	GTATTTGGTA	TCTGCGCTCT	GCTGAAGCCA	GTTACCTTCG	GAAAAAGAGT	TGGTAGCTCT	7440
	TGATCCGGCA	AACAACCAC	CGCTGGTAGC	GGTGGTTTTT	TTGTTTGCAA	GCAGCAGATT	7500
	ACGCGCAGAA	AAAAAGGATC	TCAAGAAGAT	CCTTTGATCT	TTTCTACGGG	GCTCGACGCT	7560
	CAGTGGAAACG	AAAACCTCAG	TTAAGGGATT	TTGGTCATGA	GATTATCAAA	AAGGATCTTC	7620
	ACCTAGATCC	TTTTAAATTA	AAAATGAAGT	TTTAAATCAA	TCTAAAGTAT	ATATGAGTAA	7680
10	ACTTGGTCTG	ACAGTTACCA	ATGCTTAATC	AGTGAGGCAC	CTATCTCAGC	GATCTGTCTA	7740
	TTTTCGTTCA	CCATAGTTGC	CTGACTCCCC	GTCTGTGTAG	TAACCTACGT	ACGGGAGGGC	7800
	TTACCATCTG	GCCCCAGTGC	TGCAATGATA	CCCGAGAGCC	CACGCTCAC	GGCTCCAGAT	7860
	TTATCAGCAA	TAAACAGCC	AGCCGGAAGG	CCCGAGCGCA	GAAGTGGTCC	TGCAACTTTA	7920
	TCCGCGTCCA	TCCAGTCTAT	TAAATTGTTG	CGGGAAGCTA	GAGTAAGTAG	TTTCGCCAGTT	7980
15	AATAGTTTGC	GCAACGTTGT	TGCCATTGCT	ACAGGCATCG	TGGTGTACAG	CTCGTCGTTT	8040
	GGTATGGCTT	CATTCAAGTC	GGGTTCCCAA	CGATCAAGGC	GAGTTACATG	ATCCCCCATG	8100
	TTGTGCAAAA	AAGCGGTTAG	CTCCTTCGGT	CCTCCGATCG	TTGTGAGAAG	TAAGTTGGCC	8160
	GCAGTGTTAT	CACCTCATGGT	TATGGCAGCA	CTGCATAATT	CTCTTACTGT	CATGCCATTC	8220
	GTAAGATGCT	TTTCTGTGAC	TGCTGAGTAC	TCAACCAAGT	CATTCTGAGA	ATAGTGTATG	8280
20	CGGCGACCGA	GTGTGCTCTG	CCCCGCGTCA	ATACGGGATA	ATACCGCGCC	ACATAGCAGA	8340
	ACTTTAAAAG	TGCTCATCAT	TGGAAAACGT	TCTTCGGGGC	GAAAACCTCT	AAGGATCTTA	8400
	CCGCTGTTGA	GATCCAGTTC	GATGTAACCC	ACTCGTGCAC	CCAACTGATC	TTCAGCATCT	8460
	TTTACTTTCA	CCAGCGTTTC	TGGGTGAGCA	AAAACAGGAA	GGCAAAATGC	CGCAAAAAAG	8520
	GGAATAAGGG	CGACACGGAA	ATGTTGAATA	CTCATACTCT	TCCTTTTTCA	ATATTATTGA	8580
25	AGCATTTATC	AGGGTTATTG	TCTCATGAGC	GGATACATAT	TTGAATGTAT	TTAGAAAAAT	8640
	AAACAAATAG	GGGTTCCGCG	CACATTTCCC	CGAAAAGTGC	CACCTGACGT	C	8691

40	GACGGATCGG	GAGATCTGCT	AGGTGACCTG	AGGCGCGCCG	GCTTCGAATA	GCCAGAGTAA	60
	CCTTTTTTTT	TAATTTTATT	TTATTTTATT	TTTGAGATGG	AGTTTGCGCG	CGATCTCCCG	120
	ATCCCTATG	GTCGACTCTC	AGTACAATCT	GCTCTGATGC	CGCATAGTTA	AGCCAGTATC	180
	TGCTCCCTGC	TTGTGTGTTG	GAGGTCGCTG	AGTAGTGCGC	GAGCAAAATT	TAAGCTACAA	240
45	CAAGGCAAGG	CTTGACCGAC	AATTGCATGA	AGAATTCTGT	TAGGGTTAGG	CGTTTTGCGC	300
	TGCTTCGCGA	TGTACGGGCC	AGATATAACG	GTTGACATTG	ATTATTGACT	AGTTATTAAT	360
	AGTAATCAAT	TACGGGGTCA	TTAGTTCATA	GCCCATATAT	GGAGTCCCG	GTTACATAAC	420
	TTACGGTAAA	TGGCCCGCCT	GGCTGACCGC	CCAACGACCC	CCGCCATTG	ACGTCAATAA	480
50	TGACGTATGT	TCCCATAGTA	ACGCCAATAG	GGACTTTCCA	TTGACGTCAA	TGGGTGGACT	540
	ATTTACGGTA	AACTGCCAC	TTGGCAGTAC	ATCAAGTGTA	TCATATGCCA	AGTACGCCCC	600
	CTATTGACGT	CAATGACCGT	AAATGGCCCG	CCTGGCATT	TGCCCAGTAC	ATGACCTTAT	660
	GGGACTTTCC	TACTTGGCAG	TACATCTACG	TATTAGTCAT	CGCTATTACC	ATGGTGAATG	720
55	GGTTTTGGCA	GTACATCAAT	GGGCGTGGAT	AGCGGTTTGA	CTCAGCGGGA	TTTCCAAGTC	780
	TCCACCNCAT	TGACGTCAAT	GGGAGTTTGT	TTTGGCACC	AAATCAACGG	GACTTTCCAA	840
	AATGTCGTAA	CAACTCCGCC	CCATTGACGC	AAATGGGCGG	TAGGCGTGT	CGGTGGGAGG	900
	TCTATATAAG	CAGAGCTCTC	TGGCTAACTA	GAGAACCCAC	TGCTTACTGG	CTTATCGAAA	960
60	TTAATACGAC	TCACTATAGG	GAGACCCAAG	CTTGGTACCA	ATTTAAATTG	ATATCTCCTT	1020
	AGGTCTCGAG	TCTCTAGATA	ACCGGTCAAT	CGATTGGAAT	TCTTGCGGCC	GCTTGCTAGC	1080
	CACCATTGGG	TTGTGGTTAA	GCTTGGTCTT	TCCTTGCTCT	TGTTTTAAAA	GGTGTCAGT	1140
	GTGAAGTGAA	TCTGGTGGAG	TCTGGGGGAG	GCTTAGTGCA	GCCTGGAGGG	TCCCTGAAAG	1200
65	TCTCCTGTGT	AACCTCTGGA	TTCACTTTCA	GCTGACTATTA	CATGATTTGG	GTTCCGCAGA	1260

	CTGTTTACCA	GGAAGCCATG	AATCAACCAG	GCCACCTTAG	ACTCTTTGTG	ACAAGGATCA	4860
	TGCAGGAATT	TGAAAGTGAC	ACGTTTTTCC	CAGAAATTGA	TTTGGGGAAA	TATAAACTTC	4920
	TCCCAGATA	CCCAGGCGTC	CTCTCTGAGG	TCCAGGAGGA	AAAAGGCATC	AAGTATAAGT	4980
5	TTGAAGTCTA	CGAGAAGAAA	GACTAACAGG	AAGATGCTTT	CAAGTTCTCT	GCTCCCCTCC	5040
	TAAAGCTATG	CATTTTTATA	AGACCATGGG	ACTTTTGCTG	GCTTTAGATC	TCTTTGTGAA	5100
	GGAACCTTAC	TTCTGTGGTG	TGACATAATT	GGACAAACTA	CCTACAGAGA	TTTAAAGCTC	5160
	TAAGGTAAAT	ATAAAATTTT	TAAGTGATA	ATGTGTTAAA	CTACTGATTC	TAATTGTTTG	5220
	TGTATTTTAG	ATTCCAACCT	ATGGAACCTGA	TGAATGGGAG	CAGTGGTGGA	ATGCCTTTAA	5280
10	TGAGGAAAAC	CTGTTTTGCT	CAGAAGAAAT	GCCATCTAGT	GATGATGAGG	CTACTGCTGA	5340
	CTCTCAACAT	TCTACTCCTC	CAAAAAAGAA	GAGAAAGGTA	GAAGACCCCA	AGGACTTTCC	5400
	TTCAGAATTG	CTAAGTTTTT	TGAGTCATGC	TGTGTTTAGT	AATAGAACTC	TTGCTTGCTT	5460
	TGCTATTTAC	ACCACAAAGG	AAAAAGCTGC	ACTGCTATAC	AAGAAAATTA	TGGAAAAATA	5520
	TTCTGTAACG	TTTATAAGTA	GGCATAACAG	TTATAATCAT	AACATACTGT	TTTTTCTTAC	5580
	TCCACACAGG	CATAGAGTGT	CTGCTATTAA	TCAATAGCAT	CAAAAATTGT	GTACTGTTAG	5640
15	CTTTTTTAAT	TGTAAAGGGG	TTAATAAGGA	ATATTTGATG	TATAGTGCCT	TGACTAGAGA	5700
	TCATAATCAG	CCATACCACA	TTTGTAGAGG	TTTTACTTGC	TTTAAAAAAC	CTCCACACC	5760
	TCCCCCTGAA	CCTGAAACAT	AAATGAATG	CAATTGTTGT	TGTTAACTTG	TTTATTGCAG	5820
	CTTATAATGG	TTACAAATAA	AGCAATAGCA	TCACAAATTT	CACAAATAAA	GCATTTTTTT	5880
	CACTGCATTC	TAGTTGTGGT	TTGTCCAAAC	TCATCAATGT	ATCTTATCAT	GTCTGGATCG	5940
20	GCTGGATGAT	CCTCCAGCGC	GGGGATCTCA	TGCTGGAGTT	CTTCGCCAC	CCCAACTTGT	6000
	TTATTGCAGC	TTATAATGGT	TACAAATAAA	GCAATAGCAT	CACAAATTTT	ACAAATAAAG	6060
	CATTTTTTTC	ACTGCATTCT	AGTTGTGGTT	TGTCCAAACT	CATCAATGTA	TCTTATCATG	6120
	TCTGTATACC	GTCGACCTCT	AGCTAGAGCT	TGGCGTAATC	ATGGTCATAG	CTGTTTCCTG	6180
25	TGTGAAATTG	TTATCCGCTC	ACAATTCCAC	ACAACATACG	AGCCGGAAGC	ATAAAGTGTA	6240
	AAGCCTGGGG	TGCCTAATGA	GTGAGCTAAC	ACACATTAAT	TGCGTTGCGC	TCACTGCCCG	6300
	CTTTCCAGTC	GGGAAACCTG	TCGTGCCAGC	TCATTAATG	AATCGGCCAA	CGCGCGGGGA	6360
	GAGGCGGTTT	CGGTATTGGG	CGCTCTTCCG	CTTCTCGCT	CACTGACTCG	CTGCGCTCGG	6420
	TCGTTCCGGCT	GCGGCGAGCG	GTATCAGCTC	ACTCAAAGGC	GGTAATACGG	TTATCCACAG	6480
	AATCAGGGGA	TAACGCAGGA	AAGAACATGT	GAGCAAAAGG	CCAGCAAAAG	GCCAGGAACC	6540
30	GTAAAAAGGC	CGCGTTGCTG	CGCTTTTTCC	ATAGGCTCCG	CCCCCTGAC	GAGCATCACA	6600
	AAAATCGACG	CTCAAGTCAG	AGGTGGCGAA	ACCCGACAGG	ACTATAAAGA	TACCAGGCGT	6660
	TTCCCCCTGG	AAGCTCCCTC	GTGCGCTCTC	CTGTTCCGAC	CCTGCGGCTT	ACCGGATACC	6720
	TGTCGCGCTT	TCTCCCTTCG	GGAAGCGTGG	CGCTTCTCA	ATGCTCACGC	TGTAGGTATC	6780
	TCAGTTCGGT	GTAGGTCGTT	CGCTCCAAGC	TGGGCTGTGT	GCACGAACCC	CCCGTTCAGC	6840
35	CCGACCGCTG	CGCCTTATCC	GGTAACTATC	GTCTTGAGTC	CAACCCGGTA	AGACACGACT	6900
	TATCGCCACT	GGCAGCAGCC	ACTGGTAACA	GGATTAGCAG	AGCGAGGTAT	GTAGGCGGTG	6960
	CTACAGAGTT	CTTGAAGTGG	TGGCCTAACT	ACGGCTACAC	TAGAAGGACA	GTATTTGGTA	7020
	TCTGCGCTCT	GCTGAAGCCA	GTACCTTCCG	GAAAAAGAGT	TGGTAGCTCT	TGATCCGGCA	7080
	AACAAACCAC	CGCTGGTAGC	GGTGGTTTTT	TTGTTTGCAA	GCAGCAGATT	ACGCGCAGAA	7140
40	AAAAAGGAT	TCAAGAAGAT	CCTTTGATCT	TTTCTACGGG	GTCTGACGCT	CAGTGGAAACG	7200
	AAAGTTCACG	TTAAGGGATT	TTGGTCATGA	GATTATCAAA	AAGGATCTTC	ACCTAGATCC	7260
	TTTTAAATTA	AAAATGAAGT	TTTAAATCAA	TCTAAAGTAT	ATATGAGTAA	ACTTGGTCTG	7320
	ACAGTTACCA	ATGCTTAATC	AGTGAGGCAC	CTATCTCAGC	GATCTGTCTA	TTTCGTTTAT	7380
	CCATAGTTGC	CTGACTCCCC	GTGCTGTAGA	TAACCTACGAT	ACGGGAGGGC	TTACCATCTG	7440
45	GCCCCAGTGC	TGCAATGATA	CCGCGAGACC	CACGCTCACC	GGCTCCAGAT	TTATCAGCAA	7500
	TAAACCAGCC	AGCCGGAAGG	GCCGAGCGCA	GAAGTGGTCC	TGCAACTTTA	TCCGCCCTCCA	7560
	TCCAGTCTAT	TAATTGTTGC	CGGGAAGCTA	GAGTAAAGTAG	TTCCGCCAGT	AATAGTTTGC	7620
	GCAACGTTGT	TGCCATTGCT	ACAGGCATCG	TGGTGTCACG	CTCGTCGTTT	GGTATGGCTT	7680
	CATTACAGCTC	CGGTTCCCAA	CGATCAAGGC	GAGTTACATG	ATCCCCCATG	TTGTGCAAAA	7740
50	AAGCGGTTAG	CTCCTTCGGT	CCTCCGATCG	TTGTCAGAAG	TAAGTTGGCC	GCAGTGTAT	7800
	CACTCATGGT	TATGGCAGCA	CTGCATAATT	CTCTTACTGT	CATGCCATCC	GTAAGATGCT	7860
	TTTCTGTGAC	TGGTGAGTAC	TCAACCAAGT	CATTCTGAGA	ATAGTGTATG	CGGCGACCGA	7920
	GTGTCTCTTG	CCCGGCGTCA	ATACGGGATA	ATACCGCGCC	ACATAGCAGA	ACTTTAAAAG	7980
	TGCTCATCAT	TGGAAAAACG	TCTTCGGGGC	GAAAACCTCT	AAGGATCTTA	CCGCTGTTGA	8040
55	GATCCAGTTC	GATGTAACCC	ACTCGTGCAC	CCAACCTGATC	TTCAGCATCT	TTTACTTTCA	8100
	CCAGCGTTTT	TGGGTGAGCA	AAAACAGGAA	GGCAAAATGC	CGCAAAAAAG	GGAATAAGGG	8160
	CGACACGGAA	ATGTTGAATA	CTCACTACTCT	TCCTTTTTC	ATATTATTGA	AGCATTTATC	8220
	AGGGTTATTG	TCTCATGAGC	GGATACATAT	TTGAATGTAT	TTAGAAAAAT	AAACAAATAG	8280
	GGGTTCCGCG	CATATTTCCC	CGAAAAGTGC	CACCTGACGT	CCBRAAG		8327

(2) INFORMATION FOR SEQ ID NO:11:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 8897 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

GGTACCAATT TAAATTGATA TCTCCTTAGG TCTCGAGCAC CATGAAGTTG CCTGTTAGGC 60
15 TGTTGGTGCT GATGTTCTGG ATTCTGCTT CCAGCAGTGA TGTTTGTATG ACCCAAATTC 120
CAGTCTCCCT GCCTGTCAGT CTTGGAGATC AAGCGTCCAT CTCTGCAGA TCTAGTCAGA 180
TCATTGTACA TAATAATGGC AACACCTATT TAGAATGGTA CCTGCAGAAA CCAGGCCAGT 240
CTCCACAGCT CCTGATCTAC AAAGTTTCCA ACCGATTTTC TGGGGTCCCA GACAGGTTCA 300
GCGGCAGTGG ATCAGGGACA GATTTACAC TCAAGATCAG CAGAGTGGAG GCTGAGGATC 360
20 TGGGAGTTTA TTA CTGCTTT CAAGGTTTAC ATGTTCCATT CACGTTCCGC TCGGGGACAA 420
AGTTGGAAAT AAAACGTAAG TCTCGAGTCT CTAGATAACC GGTCAATCGA TTGGAATTCT 480
AAACTCTGAG GGGGTCGGAT GACCTGGCCA TTCTTTGCCCT AAAGCATTGA GTTTACTGCA 540
AGGTCAGAAA AGCATGCAAA GCCCTCAGAA TGGCTGCAAA GAGCTCCAAC AAAACAATTT 600
AGAACTTTAT TAAGGAATAG GGGGAAGCTA GGAAGAACT CAAAACATCA AGATTTTAAA 660
25 TACGCTTCTT GGTCTCCTTG CTATAATAT CTGGGATAAG CATGCTGTTT TCTGTCTGTC 720
CCTAACATGC CCTTATCCGC AAACAATCA CCCAAGGGCA GAACCTTGTT ACTTAAACAC 780
CATCCTGTTT GCTTCTTTCC TCAGGAATG TGGCTGCACC ATCTGTCTTC ATCTTCCCGC 840
CATCTGATGA GCAGTTGAAA TCTGGAAC TG CCTCTGTTGT GTGCCTGCTG AATAACTTCT 900
ATCCCAGAGA GGCCAAAGTA CAGTGGAAGG TGGATAACGC CCTCCAATCG GGTAACCTCC 960
30 AGGAGAGTGT CACAGAGCAG GAGAGCAAGG ACAGCACCTA CAGCCTCAGC AGCACCTGTA 1020
CGCTGAGCAA AGCAGACTAC GAGAAACACA AAGTCTACGC CTGCGAAGTC ACCCATCAGG 1080
GCCTGAGCTC GCCCGTCACA AAGAGCTTCA ACAGGGGAGA GTGTTAGAGG GAGAAGTGCC 1140
CCCACCTGCT CCTCAGTTCC AGCCTGACCC CTTCCCATCC TTTGGCCTCT GACCCTTTTT 1200
CCACAGGGGA CTAACCCCTA TTGCGGTCCCT CCAGCTCATC TTTCACCTCA CCCCCCTCCT 1260
35 CCTCCTTGGC TTTAATTATG CTAATGTTGG AGGA GAATGA ATAAATAAAG TGAATCTTTG 1320
CACCTGTGGT TTCTCTCTTT CCTCATTTAA TAATTATTAT CTGTTGTTTT ACCAACTACT 1380
CAATTTCTCT TATAAGGGAC TAAATATGTA GTCATCTTAA GGCACGTAAC CATTTATAAA 1440
AATCATCCTT CATTCTATTT TACCCTATCA TCCTCTGCAA GACAGTCTC CCTCAAACCC 1500
ACAAGCCTTC TGTCCTCACA GTCCCCTGGG CCATGGTAGG AGAGACTTGC TTCCTTGTTT 1560
40 TCCCCTCCTC AGCAAGCCCT CATAGTCCTT TTTAAGGGTG ACAGGTCTTA CAGTCATATA 1620
TCCTTTGATT CAATTCCTG AGAATCAACC AAAGCAAATT TTTCAAAAGA AGAAACCTGC 1680
TATAAAGAGA ATCATTCAAT GCAACATGAT ATAAATAAC AACACAATAA AAGCAATTAA 1740
ATAAACAAAC AATAGGGAAA TGTTTAAGTT CATCATGGTA CTTAGACTTA ATGGAATGTC 1800
ATGCCTTATT TACATTTTAA AACAGGTACT GAGGGACTCC TGTCTGCCAA GGGCCGTATT 1860
45 GAGTACTTTC CACAACCTAA TTTAATCCAC ACTTACTGT GAGATTAAAA ACATTCATTA 1920
AAATGTTGCA AAGGTTCTAT AAAGCTGAGA GACAAATATA TTCTATAACT CAGCAATCCC 1980
ACTTCTAGAT GACTGAGTGT CCCCACCCAC CAAAAACTA TCAAGAATG TTCAAAGCAG 2040
CTTTATTTAC AAAAGCCAAA AATTGGAAAT AGCCCGATTG TCCAACAATA GAATGAGTTA 2100
TTAAACTGTG GTATGTTTAT ACATTAGAAT ACCCAATGAG GAGAATTAAC AAGCTACAAC 2160
50 TATACCTACT CACACAGATG AATCTCATAA AAATAATGTT ACATAAGAGA AACTCAATGC 2220
AAAAGATATG TTCTGTATGT TTTTATCCAT ATAAAGTTCA AAACAGGTA AAAATAAAGT 2280
TAGAAATTTG GATGGAAATT ACTCTTAGCT GGGGGTGGGC GAGTTAGTGC CTGGGAGAAG 2340
ACAAGAAGGG GCTTCTGGGG TCTTGGTAAT GTTCTGTTCC TCGTGTGGGG TTGTGCAGTT 2400
ATGACTGTGT CACTGTTCTG TATACACATT ATGCTTCAAA ATAACTTAC ATAAAGAACA 2460
55 TCTTATACCC AGTTAATAGA TAGAAGAGGA ATAAGTAATA GGTCAAGACC AACGCAGCTG 2520
GTAAGTGGGG GCCTGGGATC AAATAGCTAC CTGCCAATC CTGCCWCCT GAGCCCTGAA 2580
TGAGTCTGCC TTCCAGGGCT CAAGGTGCTC AACAAAACAA CAGGCCTGCT ATTTTCCTGG 2640
CATCTGTGCC CTGTTTGGCT AGCTAGGAGC ACACATACAT AGAAATTAAT TGAAACAGAC 2700
CTTCAGCAAG GGGACAGAGG ACAGAATTAA CCTTGCCAG ACCTGGAAA CCCATGTATG 2760

	AACACTCACA	TGTTTGGGAA	GGGGGAAGGG	CACATGTAAA	TGAGGACTCT	TCCTCATCTT	2820
	ATGGGGCACT	CTGGCCCTGC	CCCTCTCAGC	TACTCATCCA	TCCAACACAC	CTTTCTAAGT	2880
	ACCTCTCTCT	CCCTACACTC	TGAAGGGGTT	CAGGAGTAAC	TAACACAGCA	TCCCTTCCCT	2940
5	CAAATGACTG	ACAATCCCTT	TGTCTTGCTT	TGTTTTTCTT	TCCAGTCAGT	ACTGGGAAAAG	3000
	TGGGGAAGGA	CAGTCATGGA	GAAACTACAT	AAGGAAGCAC	CTTGCCCTTC	TGCCCTCTTGA	3060
	GAATGTTGAT	GAGTATCAAA	TCTTTCAAAC	TTTGGAGGTT	TGAGTAGGGG	TGAGACTCAG	3120
	TAATGTCCCT	TCCAATGACA	TGAACCTGCT	CACCTCATCC	TGGGGGCCAA	ATTGAACAAT	3180
	CAAAGGCAGG	CATAATCCAG	TTATGAATTC	TTGCGGCCGC	TTGCTAGCTT	CACGTGTTGG	3240
10	ATCCAACCGC	GGAAGGGGCC	TATTCTATAG	TGTCACCTAA	ATGCTAGAGC	TCGCTGATCA	3300
	GCCTCGACTG	TGCCTTCTAG	TTGCCAGCCA	TCTGTGTTT	GCCCTCCCC	CGTGCCTTCC	3360
	TTGACCCTGG	AAGGTGCCAG	TCCCACTGTC	CTTTCCTAAT	AAAATGAGGA	AATTGCATCG	3420
	CATTGTCTGA	GTAGGTGTCA	TTCTATTCTG	GGGGGTGGGG	TGGGGCAGGA	CAGCAAGGGG	3480
	GAGGATTGGG	AAGACAATAG	CAGGCATGCT	GGGGATGCGG	TGGGCTCTAT	GGCTTCTGAG	3540
	GCGGAAAGAA	CCAGCTGGGG	CTCTAGGGGG	TATCCCCACG	CGCCCTGTAG	CGGCGCATTA	3600
15	AGCGCGGCGG	GTGTGGTGGT	TACGCGCAGC	GTGACCGCTA	CACCTTGCCAG	CGCCCTAGCG	3660
	CCCGCTCCTT	TCGCTTTCTT	CCCTTCCTTT	CTCGCCACGT	TCGCCGGGCC	TCTCAAAAAA	3720
	GGGAAAAAAA	GCATGCATCT	CAATTAGTCA	GCAACCATAG	TCCCGCCCC	AACTCCGCC	3780
	ATCCCGCCCC	TAACTCCGCC	CAGTTCCGCC	CATTCTCCGC	CCCATGGCTG	ACTAATTTTT	3840
	TTTATTTATG	CAGAGGCCGA	GGCCGCCTCG	GCCTCTGAGC	TATTCCAGAA	GTAGTGAGGA	3900
20	GGCTTTTTTG	GAGGCCTAGG	CTTTTGCAAA	AAGCTTGGAC	AGCTCAGGGC	TGCGATTTCG	3960
	CGCCAAACTT	CAGCGCAATC	CTAGCGTGAA	GGCTGGTAGG	ATTTTATCCC	CGCTGCGATC	4020
	ATGGTTCGAC	CATTGAACTG	CATCGTCGCC	GTGTCCCAAA	ATATGGGGAT	TGGCAAGAAC	4080
	GGAGACCTAC	CCTGGCCTCC	GCTCAGGAAC	GAGTTCAAGT	ACTTCCAAAG	AATGACCACA	4140
	ACCTCTTCAG	TGGAAGGTAA	ACAGAATCTG	GTGATTATGG	GTAGGAAAAC	CTGGTTCTCC	4200
25	ATTCTTGAGA	AGAATCGACC	TTTAAAGGAC	AGAAATAATA	TAGTTCTCAG	TAGAGAACTC	4260
	AAAGAACCAC	CACGAGGAGC	TCATTTTCTT	GCCTAAAGTT	TGGATGATGC	CTTAAGACTT	4320
	ATTGAACAAC	CGGAATTGGC	AAGTAAAGTA	GATGTTGGTT	GGATAGTCGG	AGGCAGTTCT	4380
	GTTTACCAGG	AAGCCATGAA	TCAACCAGGC	CACCTTAGAC	TCTTTGTGAC	AAGGATCATG	4440
	CAGGAATTTG	AAAGTGACAC	GTTTTTCCCA	GAAATTGATT	TGGGGAAATA	TAAACTTCTC	4500
30	CCAGAATACC	CAGGCGTCTT	CTCTGAGGTC	CAGGAGGAAA	AAGGCATCAA	GTATAAGTTT	4560
	GAAGTCTACG	AGAAGAAAGA	CTAACAGGAA	GATGCTTTCA	AGTTCTCTGC	TCCCTCTCTA	4620
	AAGCTATGCA	TTTTTATAAG	ACCATGGGAC	TTTTGCTGGC	TTTAGATCTC	TTTGTGAAGG	4680
	AACCTTACTT	CTGTGGTGTG	ACATAATTGG	ACAACTACC	TACAGAGATT	TAAAGCTCTA	4740
	AGGTAAATAT	AAAATTTTTA	AGTGATAAAT	GTGTTAAACT	ACTGATTCTA	ATTGTTTGTG	4800
35	TATTTTAGAT	TCCAACCTAT	GGAACGTATG	AATGGGAGCA	GTGGTGGAAAT	GCCTTTAATG	4860
	AGGAAAACCT	GTTTTGCTCA	GAAGAAATGC	CATCTAGTGA	TGATGAGGCT	ACTGCTGACT	4920
	CTCAACATTC	TACTCCTCCA	AAAAAGAAGA	GAAAGGTAGA	AGACCCCAAG	GACTTTCCTT	4980
	CAGAATTGCT	AAGTTTTTTG	AGTCATGCTG	TGTTTAGTAA	TAGAACTCTT	GCTTGCTTTG	5040
	CTATTTACAC	CACAAAGGAA	AAAGCTGCAC	TGCTATACAA	GAAATTTATG	GAAAAATATT	5100
40	CTGTAACCTT	TATAAGTAGG	CATAACAGTT	ATAATCATAA	CATACTGTTT	TTTCTTACTC	5160
	CACACAGGCA	TAGAGTGTCT	GCTATTAATA	ACTATGCTCA	AAAAATGTGT	ACCTTTAGCT	5220
	TTTTAATTTG	TAAAGGGGTT	AATAAGGAAT	ATTTGATGTA	TAGTGCCTTG	ACTAGAGATC	5280
	ATAATCAGCC	ATACCACATT	TGTAGAGGTT	TTACTTGCTT	TAAAAAACCT	CCCACACCTC	5340
	CCCCTGAACC	TGAAACATAA	AATGAATGCA	ATTGTTGTTG	TTAACTTGTT	TATTGCAGCT	5400
45	TATAATGGTT	ACAAATAAAG	CAATAGCATC	ACAAATTTCA	CAAATAAAGC	ATTTTTTTTCA	5460
	CTGCATTCTA	GTTGTGGTTT	GTCCAAACTC	ATCAATGTAT	CTTATCATGT	CTGGATCGGC	5520
	TGGTAGATCT	TCCAGCGCGG	GGATCTCATG	CTGGAGTTCT	TCGCCCACCC	CAACTTGTTT	5580
	ATTGCAGCTT	ATAATGGTTA	CAAATAAAGC	AATAGCATCA	CAAATTTCA	AAATAAAGCA	5640
	TTTTTTTTCAC	TGCATTCTAG	TTGTGGTTTG	TCCAAACTCA	TCAATGTATC	TTATCATGTC	5700
50	TGTATACCGT	CGACCTCTAG	CTAGAGCTTG	GCGTAATCAT	GGTCATAGCT	GTTTCCTGTG	5760
	TGAAATTGTT	ATCCGCTCAC	AATTCACAC	AACATACGAG	CCGGAAGCAT	AAAGTGTAAG	5820
	GCCTGGGGTG	CCTAATGAGT	GAGCTAACTC	ACATTAATTG	CGTTGCGCTC	ACTGCCCCGT	5880
	TTCCAGCTCG	GAAACCTGTC	GTGCCAGCTG	CATTAATGAA	TCGGCCAACG	CGCGGGGAGA	5940
	GGCGGTTTGC	GTTATGGGCG	CTCTTCCGCT	TCCTCGCTCA	CTGACTCGCT	GCGCTCGGTC	6000
55	GTTGCGCTGC	GGCGAGCGGT	ATCAGCTCAC	TCAAAGGCGG	TAATACGGTT	ATCCACAGAA	6060
	TCAGGGGATA	ACGCAGGAAA	GAACATGTGA	GCAAAAGGCC	AGCAAAAGGC	CAGGAACCGT	6120
	AAAAAGGCCG	CGTTGCTGGC	GTTTTTCCAT	AGGCTCCGCC	CCCCTGACGA	GCATCAAAA	6180
	AATCGACGCT	CAAGTCAGAG	GTGGCGAAAC	CCGACAGGAC	TATAAAGATA	CCAGGCGTTT	6240
	CCCCCTGGAA	GCTCCCTCGT	GCGCTCTCCT	GTTCGACCC	TGCCGCTTAC	CGGATACTG	6300

	TCCGCCTTTC	TCCCTTCGGG	AAGCGTGGCG	CTTCTCAAT	GCTCACGCTG	TAGGTATCTC	6360
	AGTTCGGTGT	AGGTCGTTCG	CTCCAAGCTG	GGCTGTGTGC	ACGAACCCCC	CGTTCAGCCC	6420
	GACCGCTGCG	CCTTATCCGG	TAACATATCGT	CTTGAGTCCA	ACCCGGTAAG	ACACGACTTA	6480
5	TCGCCACTGG	CAGCAGCCAC	TGGTAACAGG	ATTAGCAGAG	CGAGGTATGT	AGGCGGTGCT	6540
	ACAGAGTTCT	TGAAGTGGTG	GCCTAACTAC	GGCTACACTA	GAAGGACAGT	ATTTGGTATC	6600
	TGCGCTCTGC	TGAAGGACAGT	TACCTTCGGA	AAAAGAGTTG	GTAGCTCTTG	ATCCGGCAAA	6660
	CAACACCACG	CTGGTAGCGG	TGGTTTTTTT	GTTTGCAAGC	AGCAGATTAC	GCGCAGAAAA	6720
	AAAGGATCTC	AAGAAGATCC	TTTGATCTTT	TCTACGGGGT	CTGACGCTCA	GTGGAACGAA	6780
	AACTCACGTT	AAGGGATTFT	GGTCATGAGA	TTATCAAAAA	GGATCTTCAC	CTAGATCCTT	6840
10	TTAAATTAAA	AATGAAGTTT	TAAATCAATC	TAAAGTATAT	ATGAGTAAAC	TTGGTCTGAC	6900
	AGTTACCAAT	GCTTAATCAG	TGAGGACACT	ATCTCAGCGA	TCTGTCTATT	TCGTTTCATCC	6960
	ATAGTTGCCT	GACTCCCCGT	CGTGTAGATA	ACTACGATAC	GGGAGGGCTT	ACCATCTGGC	7020
	CCCAGTGTG	CAATGATACC	CGAGACCCA	CGCTCACC	CTCCAGATTT	ATCAGCAATA	7080
	AACAGCCAG	CCGGAAGGGC	CGAGCGCAGA	AGTGTCTCTG	CAACTTTATC	GCGCTCCATC	7140
15	CAGTCTATTA	ATTGTTGCCG	GGAAGCTAGA	GTAAGTAGTT	CGCCAGTTAA	TAGTTTGCGC	7200
	AACGTTGTTG	CCATTGCTAC	AGGCATCGTG	GTGTCACGCT	CGTCGTTTGG	TATGGCTTCA	7260
	TTCAGCTCCG	GTTCCCAACG	ATCAGGGCGA	GTTACATGAT	CCCCATGTT	GTGCAAAAAA	7320
	GCGGTTAGCT	CCTTCGGTCC	TCCGATCGTT	GTCAGAAGTA	AGTTGGCCGC	AGTGTATATCA	7380
	CTCATGGTTA	TGGCAGCACT	GCATAATTCT	CTTACTGTCA	TGCCATCCGT	AAGATGCTTT	7440
20	TCTGTGACTG	GTGAGTACTC	AACCAAGTCA	TTCTGAGAAT	AGTGTATGCG	GCGACCGAGT	7500
	TGCTCTTGCC	CGGCGTCAAT	ACGGGATAAT	ACCGCGCCAC	ATAGCAGAAC	TTTAAAAGTG	7560
	CTCATCATTT	GAAAACGTTT	TTCGGGGCGA	AAACTCTCAA	GGATCTTACC	GCTGTTGAGA	7620
	TCCAGTTCGA	TGTAACCCAC	TCGTGCACCC	AACTGATCTT	CAGCATCTTT	TACTTTTACC	7680
	AGCGTTTCTG	GGTGAGCAAA	AACAGGAAGG	CAAAATGCCG	CAAAAAAGGG	AATAAGGGCG	7740
25	ACACGGAAAT	GTTGAATACT	CATACTCTTC	CTTTTTCAAT	ATTATTGAAG	CATTTATCAG	7800
	GGTTATTGTC	TCATGAGCGG	ATACATATTT	GAATGTATTT	AGAAAAATAA	ACAAATAGGG	7860
	GTTCCGCGCA	CATTTCCCCG	AAAAGTGCCA	CTTGACGTCG	ACGGATCGGG	AGATCTGCTA	7920
	GCCCGGGTGA	CCTGAGGCGC	GCCGGCTTCG	AATAGCCAGA	GTAACCTTTT	TTTTTAATTT	7980
	TATTTTATTT	TATTTTGTAG	ATGGAGTTTG	GCGCCGATCT	CCCGATCCCC	TATGGTCGAC	8040
30	TCTCAGTACA	ATCTGCTCTG	ATGCCGCATA	GTTAAGCCAG	TATCTGCTCC	CTGCTTGTGT	8100
	GTTGGAGGTC	GCTGAGTAGT	GCGCGAGCAA	AATTTAAGCT	ACAACAAGGC	AAGGCTTGAC	8160
	CGACAATTGC	ATGAAGAATC	TGCTTAGGGT	TAGGCGTTTT	GCGCTGCTTC	GCGATGTACG	8220
	GGCCAGATAT	ACGCGTTGAC	ATTGATTATT	GACTAGTTAT	TAATAGTAAT	CAATTACGGG	8280
	GTCATTAGTT	CATAGCCCAT	ATATGGAGTT	CCGCGTTACA	TAACCTACGG	TAAATGGCCC	8340
35	GCCTGGCTGA	CCGCCCAACG	ACCCCCGCC	ATTGACGTCA	ATAATGACGT	ATGTTCCCAT	8400
	AGTAACGCCA	ATAGGGACTT	TCCATTGACG	TCAATGGGTG	GACTATTTAC	GGTAAACTGC	8460
	CCACTTGGCA	GTACATCAAG	TGTATCATAT	GCCAAGTACG	CCCCCTATTG	ACGTCATATGA	8520
	CGGTAAATGG	CCCGCCTGGC	ATTATGCCCA	GTACATGACC	TTATGGGACT	TTCCTACTTG	8580
	GCAGTACATC	TACGTATTAG	TCATCGCTAT	TACCATGGTG	ATGCGGTTTT	GGCAGTACAT	8640
40	CAATGGGCGT	GGATAGCGGT	TTGACTCACG	GGGATTTCCA	AGTCTCCACC	CCATTGACGT	8700
	CAATGGGAGT	TTGTTTTGGC	ACCAAAATCA	ACGGGACTTT	CCAAAATGTC	GTAACAACTC	8760
	CGCCCCATTG	ACGCAAATGG	GCGGTAGGCG	TGTACGGTGG	GAGGTCTATA	TAAGCAGAGC	8820
	TCTCTGGCTA	ACTAGAGAAC	CCACTGCTTA	CTGGCTTATC	GAAATTAATA	CGACTCACTA	8880
45	TAGGGAGACC	CAAGCTT					8897

(2) INFORMATION FOR SEQ ID NO:12:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 8321 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

GGTACCAATT	TAAATTGATA	TCTCCTTAGG	TCTCAGTCT	CTAGATAACC	GGTCAATCGA	60
TTGGAATTCT	TGCGGCTTCT	TGCTAGCCAC	CATGGAGTTG	TGGTTAAGCT	TGGTCTTCTT	120

	TGTCCTTGTT	TTAAAAGGTG	TCCAGTGTGA	AGTGCAACTG	GTGGAGTCTG	GGGGAGGCTT	180
	AGTGCAGCCT	GGAGGGTCCC	TGCGACTTTC	CTGTGCTGCA	TCTGGATTCC	CGTTCAGTGA	240
	CTATTACATG	TATTGGGTTC	GCCAGGCTCC	AGGCAAGGGA	CTGGAGTGGG	TCTCATACAT	300
5	TAGTCAAGAT	GGTGATATAA	CCGACTATGC	AGACTCCGTA	AAGGGTCGAT	TCACCATCTC	360
	CAGAGACAAT	GCAAAGAACA	GCCTGTACCT	GCAAAATGAAC	AGCCTGAGGG	ACGAGGACAC	420
	AGCCGTGTAT	TACTCTGCAA	GAGGCCCTGG	GGACGGGGCC	TGTTTGTGCTT	ACTGGGGCCA	480
	AGGGACTCTG	GTCACGCTCT	CTTCCGCTAG	CACCAAGGGC	CCATCGTCT	TCCCCCTGGC	540
	ACCCCTCCTC	AAGAGCACCT	CTGGGGGCAC	AGCGGGCCCTG	GGCTGCCTGG	TCAAGGACTA	600
10	CTTCCCCGAA	CCGGTGACGG	TGTCGTGGAA	CTCAGGCGCC	CTGACCAGCG	GCGTGCACAC	660
	CTTCCCGGCT	GTCCTACAGT	CCTCAGGACT	CTACTCCCTC	AGCAGCGTGG	TCACCGTGCC	720
	CTCCAGCAGC	TTGGGCACCC	AGACCTACAT	CTGCAACGTG	AATCACAAGC	CCAGCAACAC	780
	CAAGGTGGAC	AAGAAAGTTG	TGTAGAGGCC	AGCACAAGGA	GGGAGGGTGT	CTGCTGGAAAG	840
	CCAGGCTCAG	CGCTCCTGCC	GTGACGCATC	CCGGCTATGC	AGCCCCAGTC	CAGGGCAGCA	900
	AGGCAGGCCC	CGCTCTGCCTC	TTACCCCGGA	GGCCTCTGCC	CGCCCCACTC	ATGCTCAGGG	960
15	AGAGGGTCTT	CTGGCTTTTT	CCCCAGGCTC	TGGGCAGGCA	CAGGCTAGGT	GCCCCAACC	1020
	CAGGCCCTGC	ACACAAAGGG	GCAGGTGCTG	GGCTCAGACC	TGCCAAGAGC	CATATCCGGG	1080
	AGGACCTGTC	CCCTGACCTA	AGCCCACCCC	AAAGGCCAAA	CTCTCCACTC	CCTCAGCTCG	1140
	GACACCTTCT	CTCCTCCCAG	ATTCCAGTAA	CTCCCAATCT	TCTCTCTGCA	GAGCCCCAAAT	1200
20	CTTGTGACAA	AACTACACA	TGCCACCCTG	GCCCAGGTAA	CCAGGCCAG	GCCCTGCCCT	1260
	CCAGTCAAG	CGGGGACAGG	TGCCCTAGAG	TAGCCTGCAT	CCAGGGACAC	ACCACGTGGG	1320
	TACCAACATG	TCCGGAGCCA	CATGGACAGA	GGCCGGCTCG	GCCCACCCTC	TGCCCTGAGA	1380
	GTGACCGCTG	TACCAACCTC	TGTCCCTACA	GGGCAGCCCC	GAGAACCACA	GGTGTAACCC	1440
	CTGCCCCCAT	CCCGGGATGA	GCTGACCAAG	AACCAGGTCA	GCCTGACCTG	CCTGGTCAAA	1500
25	GGCTTCTATC	CCAGCGACAT	CGCCGTGAG	TGGGAGAGCA	ATGGGCAGCC	GGAGAACAAC	1560
	TACAAGACCA	CGCCTCCCGT	GCTGGAAACC	GACGGCTCCT	TCTTCTCTA	CAGCAAGCTC	1620
	ACCGTGGACA	AGAGCAGGTG	GCAGCAGGG	AACGCTCTCT	CATGCTCCGT	GATGCTAGAG	1680
	GCTCTGCACA	ACCACTACAC	GCAGAAGAGC	CTCTCCCTGT	CTCCGGGTAA	ATGAGTGCGA	1740
	CGGCCGGCAA	GCCCCCGCTC	CCCGGGCTCT	CGCGGTGCA	CGAGGATGCT	TGGCACGTAC	1800
30	CCCCTGTACA	TACTTCCCGG	GCGCCAGCA	TGGAAATAAA	GCACCAGCG	CTGCCCTGGG	1860
	CCCCTGCGAG	ACTGTGATGG	TTCTTTCCAC	GGGTGAGGCC	GAGTCTGAGG	CCTGAGTGGC	1920
	ATGAGGGAGG	CAGAGCGGGT	CCCAGTGTCC	GCACACTGGC	CCAGGCTGTG	CAGGTGTGCC	1980
	TGGGGCCCCT	AGGGTGGGGC	TCAGCCAGGG	GCTGCCCTTC	GCAGGTGGGG	GGATTGCCCA	2040
	GCGTGGCCCT	CCCTCCAGCA	GCACCTGCCC	TGGGCTGGGC	CACGGGAAGC	CCTAGGAGCC	2100
35	CCTGGGGACA	GACACACAGC	CCCTGCCTCT	GTAGGAGACT	GTCCTGTTCT	GTGAGCGCCC	2160
	CTGTCTCTCC	GACCTCCATG	CCCACTCGGG	GGCATGCCTA	GTCCATGTGC	GTAGGGACAG	2220
	GCCCTCCCTC	ACCCATCTAC	CCCCACGGCA	CTAACCCCTG	GCTGCCCTGC	CCAGCCTCGC	2280
	ACCCGCATGG	GGACACAACC	GACTCCGGGG	ACATGCACCT	TCGGGCCCTG	TGGAGGGACT	2340
	GGTGCCAGAT	CCCACACACA	CACCTCAGCCC	AGACCGGTTT	AACAACCCCC	GCATGAGGT	2400
40	TGGCGCGCCA	CACGGCCACC	ACACACACAC	GTGCACGCCT	CACACACGGA	GCCCTACCCG	2460
	GGCGAACTGC	ACAGCACCCA	GACCAGAGCA	AGGTCTCTGC	ACACGTGAAC	ACTCCTCGGA	2520
	CACAGGCCCC	CACGAGCCCC	ACGCGGCACC	TCAAGGCCCA	CGAGCCTCTC	GGCAGCTTCT	2580
	CCACATGCTG	ACCTGCTCAG	ACAAACCCAG	CCCTCCTCTC	ACAAGGGTGC	CCCTGCAGCC	2640
	GCCACACACA	CACAGGGGAT	CACACACCAC	GTCACGTCCG	TGGCCCTGGC	CCACTTCCCA	2700
45	GTGCCGCCCT	TCCCTGCAGG	ACGGATCAGC	CTCAGCTGTG	CGTTCTAGTT	GCCAGCCATC	2760
	TGTTGTTTGC	CCCTCCCCCG	TGCGTTCTCT	GACCTGGAA	GCTGCCACTC	CCACTGTCTT	2820
	TTCTTAATAA	AATGAGGAAA	TTGTCATGCA	TTGTCTGAGT	AGGTGTCATT	CTATTCTGGG	2880
	GGGTGGGGTG	GGGCAGGACA	GCAAGGGGGA	GGATTGGGAA	GACAATAGCA	GGCATGCTGG	2940
	GGATGCGGTG	GGCTCTATGG	CTTCTGAGGC	GGAAAGAACC	AGCTGGGGCT	CTAGGGGGTA	3000
50	TCCCCACGCG	CCCTGTAGCG	GCGCATTAAAG	CGCGGCGGGT	GTGGTGGTTA	CGCGCAGCGT	3060
	GACCGCTACA	CTTGCCAGCG	CCCTAGCGCC	CGCTCCTTTC	GCTTCTTCTC	CTTCTTCTTC	3120
	CGCCACGTTT	CGCGGGCCTC	TCAAAAAAGG	GAAAAAAGC	ATGCACTCTCA	ATTAGTCAGC	3180
	AACCATAGTC	COCGCCCTAA	CTCCGCCCAT	CCCGGCCCTA	ACTCCGCCCA	GTTCCGCCCA	3240
	TTCTCCGCCC	CATGGCTGAC	TAATTTTTTT	T			

	AATTAATATA	GTTCTCAGTA	GAGAACTCAA	AGAACCACCA	CGAGGAGCTC	ATTTTCTTGC	3720
	CAAAAGTTTG	GATGATGCCT	TAAGACTTAT	TGAACAAACG	GAATTGGCAA	GTAAAGTAGA	3780
	CATGGTTTGG	ATAGTCGGAG	GCAGTTCTGT	TTACCAGGAA	GCCATGAATC	AACCAGGCCA	3840
	CCTTAGACTC	TTTGTGACAA	GGATCATGCA	GGAATTTGAA	AGTGACACGT	TTTTCCCAGA	3900
5	AATTGATTTG	GGGAAATATA	AACTTCTCCC	AGAATACCCA	GGCGTCTCT	CTGAGGTCCA	3960
	GGAGGAAAAA	GGCATCAAGT	ATAAGTTTGA	AGTCTACGAG	AAGAAAGACT	AACAGGAAGA	4020
	TGCTTTCAAG	TACTCTGCTC	CCCTCCTAAA	GCTATGCATT	TTTATAAGAC	CATGGGACTT	4080
	TTGCTGGCTT	TAGATCTCTT	TGTGAAGGAA	CCTTACTTCT	GTGGTGTGAC	ATAATTGGAC	4140
	AAACTACCTA	CAGAGATTTA	AAGCTCTAAG	GTAATATATA	AATTTTAAAG	TGTATAATGT	4200
10	GTTAAACTAC	TGATTTCTAAT	TGTTTGTGTA	TTTTAGATTG	CAACCTATGG	AACCTGATGAA	4260
	TGGGAGCAGT	GGTGGAAATGC	CTTTAATGAG	GAAACCTGT	TTTGCTCAGA	AGAAAATGCCA	4320
	TCTAGTGATG	ATGAGGCTAC	TGCTGACTCT	CAACATTCTA	CTCCTCCAAA	AAAGAAGAGA	4380
	AAGGTAGAAG	ACCCCAAGGA	CTTTCCTTCA	GAATTGCTAA	GTTTTTTGAG	TCATGCTGTG	4440
	TTTAGTAATA	GAACTCTTGC	TTGCTTTTGC	ATTTACACCA	CAAAGGAAAA	AGCTGCACTG	4500
15	TAAGTACAAGA	AAATTATGGA	AAAATATTCT	GTAACCTTTA	TAAGTAGGCA	TAACAGTTAT	4560
	AATCATAACA	TACTGTTTTT	TCTTACTCCA	CACAGGCATA	GAGTGTCTGC	TATTAATAAC	4620
	TATGCTCAAA	AATTGTGTAC	CTTAGCTTTT	TTAATTTGTA	AAGGGGTTAA	TAAGGAATAT	4680
	TTGATGTATA	GTGCCTTGAC	TAGAGATCAT	AATCAGCCAT	ACCACATTTG	TAGAGGTTTT	4740
	ACTTGCTTTA	AAAAACCTCC	CACACCTCCC	CCTGAACCTG	AAACATAAAA	TGAATGCAAT	4800
20	TGTTGTTGTT	AACTTGTTTA	TTGCAAGCTTA	TAATGGTTAC	AAATAAAGCA	ATAGCATCAC	4860
	AAATTTTACA	AATAAAGCAT	TTTTTTCAT	GCAATTTAGT	TGTGGTTTGT	CCAAACTCAT	4920
	CAATGTATCT	TATCATGTCT	GGATCGGCTG	GATGATCCTC	CAGCGCGGGG	ATCTCATGCT	4980
	GGAGTTCTTC	CCCCACCCCA	ACTTGTATAT	TGCAGCTTAT	AATGGTTACA	AATAAAGCAA	5040
	TAGCATCACA	AATTTTCAAA	ATAAAGCATT	TTTTTCACTG	CATTCTAGTT	GTGGTTTGTC	5100
25	CAAACCTATC	AATGTATCTT	ATCATGTCTG	TATACCGTCG	ACCTCTAGCT	AGAGCTTGGC	5160
	GTAATCATGG	TCATAGCTGT	TTCTGTGTGT	AAATTGTTAT	CCGCTCACAA	TTCCACACAA	5220
	CATACGAGCC	GGAGCATAAA	AGTGTAAGGT	CTGGGGTGCC	TAATGAGTGA	GCTAACTCAC	5280
	ATTAATTGCG	TTGCGCTCAC	TGCCCCGCTT	CCAGTCGGGA	AACCTGTCTG	GCCAGCTGCA	5340
	TTAATGAATC	GGCCAACGCG	CGGGGAGAGG	CGTTTTCGCT	ATTGGGCGCT	CTTCCGCTTC	5400
30	CTCGCTCACT	GACTCGCTGC	GCTCGGTCGT	TGGCTGCGG	CGAGCGGTAT	CAGCTCACTC	5460
	AAAGGCGGTA	ATACGGTTAT	CCACAGAATC	AGGGGATAAC	GCAGGAAAGA	ACATGTGAGC	5520
	AAAAGGCCAG	CAAAAGGCCA	GGAACCGTAA	AAAGGCCGCG	TTGCTGGCGT	TTTTCCATAG	5580
	GCTCCGCCCC	CCTGACGAGC	ATCACAAAAA	TCGAGGCTCA	AGTCAGAGGT	GGCGAAACCC	5640
	GACAGACTTA	TAAAGATACC	AGGCGTTTCC	CCCTGGAAGC	TCCCTCGTGC	GCTCTCTGT	5700
35	TCCGACCCCTG	CCGCTTACCG	GATACCTGTC	CGCCTTTCTC	CCTTCGGGAA	GCGTGGCGCT	5760
	TTCTCAATGC	TCACGCTGTA	GGTATCTCAG	TTCGGTGTAG	GTCGTTTCGCT	CCAAGCTGGG	5820
	CTGTGTGCAC	GAACCCCCCG	TTCAGCCCCG	CCGCTGCGCC	TTATCCGGTA	ACTATCGTCT	5880
	TGAGTCCAAC	CCGGTAAGAC	ACGACTTATC	GCCACTGGCA	GCAGCCACTG	GTAACAGGAT	5940
	TAGCAGAGCG	AGGTATGTAG	GCGGTGCTAC	AGAGTTCTTG	AAGTGGTGGC	CTAACTACGG	6000
40	CTACACTAGA	AGGACAGTAT	TTGGTATCTG	CGCTCTGCTG	AAGCCAGTTA	CCTTCGGAAA	6060
	AAGAGTTTGT	AGCTCTTGAT	CCGGCAAAAC	AACCAACGCT	GGTAGCGGTG	GTTTTTTTGT	6120
	TTGCAAGCAG	CAGATTACGC	GCAGAAAAAA	AGGATCTCAA	GAAGATCCTT	TGATCTTTTC	6180
	TACGGGGTCT	GACGCTCAGT	GGAACGAAAA	CTCACGTTAA	GGGATTTTGG	TCATGAGATT	6240
	ATCAAAAAGG	ATCTTACACT	AGATCCTTTT	AAATTAATAA	TGAAGTTTAA	AATCAATCTA	6300
45	AAGTATATAT	GAGTAAACTT	GGTCTGACAG	TTACCAATGC	TTAATCAGTG	AGGCACCTAT	6360
	CTCAGCGATC	TGTCTATTTT	GTTTATCCAT	AGTTGCCTGA	CTCCCGTCTG	TGTAGATAAC	6420
	TACGATACGG	GAGGGCTTAC	CATCTGGCCC	CAGTGCTGCA	ATGATACCGC	GAGACCCACG	6480
	CTCACC GGCT	CCAGATTTAT	CAGCAATAAA	CCAGCCAGCC	GGAAGGCCCG	AGCGCAGAAG	6540
	TGGTCCTGCA	ACTTTATCCG	CCTCCATCCA	GTCTATTAAT	TGTTGCCCGG	AAGCTAGAGT	6600
50	AAGTAGTTTC	CCAGTTAATA	GTTTGCGCAA	CGTTGTTGCC	ATTGCTACAG	GCATCGTGGT	6660
	GTCACGCTCG	TCGTTTGGTA	TGGCTTCATT	CAGCTCCGGT	TCCCAACGAT	CAAGGCGAGT	6720
	TACATGATCC	CCCATGTTGT	GCAAAAAAGC	GGTTAGCTCC	TTCGGTCTCT	CGATCGTTGT	6780
	CAGAAGTAAG	TTGGCCGCAG	TGTTATCACT	CATGGTTATG	GCAGCACTGC	ATAATTCTCT	6840
	TACTATGCTA	CCATCCGTAA	GATGCTTTTC	TGTGACTGGT	GAGTACTCAA	CCAAGTCATT	6900
55	CTGAGAATAG	TGTATGCGGC	GACCGAGTTG	CTCTTGCCCG	GCGTCAATAC	GGGATAATAC	6960
	CGCGCCACAT	AGCAGAACTT	TAAAAGTGCT	CATCATTGGA	AAACGTTCTT	CGGGGCGAAA	7020
	ACTCTCAAGG	ATCTTACCGC	TGTTGAGATC	CAGTTCGATG	TAACCCACTC	GTGCACCCAA	7080
	CTGATCTTCA	GCATCTTTTA	CTTTCACCAG	CGTTTCTGGG	TGAGCAAAAA	CAGGAAGGCA	7140
	AAATGCCGCA	AAAAAGGGAA	TAAGGGCAGC	ACGGAAATGT	TGAATACTCA	TACTCTTCTT	7200

257080" 26250630

	TTTTCAATAT	TATTGAAGCA	TTTATCAGGG	TTATTGTCTC	ATGAGCGGAT	ACATATTTGA	7260
	ATGTATTTAG	AAAAATAAAC	AAATAGGGGT	TCCGCGCACA	TTTCCCCGAA	AAGTGCCACC	7320
	TGACGTCGAC	GGATCGGGAG	ATCTGCTAGG	TGACCTGAGG	CGCGCCGGCT	TCGAATAGCC	7380
5	AGAGTAACCT	TTTTTTTTAA	TTTATTTTTA	TTTTATTTTT	GAGATGGAGT	TTGGCGCCGA	7440
	TCTCCCGATC	CCCTATGGTC	GACTCTCAGT	ACAATCTGCT	CTGATGCCGC	ATAGTTAAGC	7500
	CAGTATCTGC	TCCTGCTTG	TGTGTTGGAG	GTCGCTGAGT	AGTGCGCGAG	CAAAATTTAA	7560
	GCTACAACAA	GGCAAGGCTT	GACCGACAAT	TGCATGAAGA	ATCTGCTTAG	GGTTAGGCGT	7620
	TTTGCGCTGC	TTCCGCGATG	ACGGGCCAGA	TATACGCGTT	GACATTGATT	ATTGACTAGT	7680
	TATTAATAGT	AATCAATTAC	GGGGTCATTA	GTTTCATAGC	CATATATGGA	GTTCCGCGTT	7740
10	ACATAACTTA	CGGTAAATGG	CCCGCCTGGC	TGACCGCCCA	ACGACCCCGG	CCCATTGACG	7800
	TCAATAATGA	CGTATGTTCC	CATAGTAACG	CCAATAGGGA	CTTTCCATTG	ACGTCAATGG	7860
	GTGGACTATT	TACGGTAAAC	TGCCCCACTG	GCAGTACATC	AAGTGATATCA	TATGCCAAGT	7920
	ACGCCCCCTA	TTGACGTCAA	TGACGGTAAA	TGGCCCGCCT	GGCATTATGC	CCAGTACATG	7980
	ACCTTATGGG	ACTTTCTTAC	TTGGCAGTAC	ATCTACGTAT	TAGTCATCGC	TATTACCATG	8040
15	GTGATGCGGT	TTTGGCAGTA	CATCAATGGG	CGTGGATAGC	GGTTTGACTC	ACGGGGGATT	8100
	CCAAGTCTCC	ACCCCATTTGA	CGTCAATGGG	AGTTTGTTTT	GGCACCAGAA	TCAACGGGAC	8160
	TTTCCAAAT	GTCGTAACAA	CTCCGCCCCA	TTGACGCAAA	TGGGCGGTAG	GCGTGTACGG	8220
	TGGGAGGTCT	ATATAAGCAG	AGCTCTCTGG	CTAACTAGAG	AACCCACTGC	TTACTGCGTT	8280
20	ATCGAAATTA	ATACGACTCA	CTATAGGGAG	ACCCAAGCTT	G		8321

(2) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 8897 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

	GACGGATCGG	GAGATCTGCT	AGCCCGGGTG	ACCTGAGGCG	CGCCGGCTTC	GAATAGCCAG	60
	AGTAACCTTT	TTTTTTAATT	TTATTTTATT	TTATTTTGA	GATGGAGTTT	GGCGCCGATC	120
35	TCCCGATCCC	CTATGGTCGA	CTCTCAGTAC	AATCTGCTCT	GATGCCGCAT	AGTTAAGCCA	180
	GTATCTGCTC	CCTGCTTGTC	TGTTGGAGGT	CGCTGAGTAG	TGCGCGAGCA	AAATTTAAGC	240
	TACAACAAGG	CAAGGCTTGA	CCGACAATTG	CATGAAGAAT	CTGCTTAGGG	TTAGGCGTTT	300
	TGCGCTGCTT	CGCGATGTAC	GGGCCAGATA	TACGCGTTGA	CATTGATTAT	TGACTAGTTA	360
	TTAATAGTAA	TCAATTACGG	GGTCATTAGT	TCATAGCCCA	TATATGGAGT	TCCGCGTTAC	420
40	ATAACTTACG	GTAATGGCC	CGCCTGGCTG	ACCGCCCAAC	GACCCCGGCC	CATTGACGTC	480
	AATAATGACG	TATGTTCCCA	TAGTAACGCC	AATAGGGACT	TTCCATTGAC	GTCAATGGGT	540
	GGACTATTTA	CGGTAAACTG	CCCACTTGCC	AGTACATCAA	GTTGATCATA	TGCCAAGTAC	600
	GCCCCCTATT	GACGTCAATG	ACGGTAAATG	GCCCGCCTGG	CATTATGCCC	AGTACATGAC	660
	CTTATGGGAC	TTTCCTACTT	GGCAGTACAT	CTACGTATTA	GTATATCGCTA	TTACCATGGT	720
45	GATGCGGTTT	TGGCAGTACA	TCAATGGGCG	TGGATAGCGG	TTTACTCAC	GGGGATTTC	780
	AAGTCTCCAC	CCCATTGACG	TCAATGGGAG	TTTGTTTTGG	CACCAAAATC	AACGGGACTT	840
	TCCAAATGT	CGTAACAAC	CCGCCCCATT	GACGCAAAATG	GGCGGTAGGC	GTGTACGGTG	900
	GGAGGTCTAT	ATAAGCAGAG	CTCTCTGGCT	AACTAGAGAA	CCCACGCTT	ACTGGCTTAT	960
	CGAAATTAAT	ACGACTCACT	ATAGGGAGAC	CCAAGCTTGG	TACCAATTTA	AATTGATATC	1020
50	TCCTTAGGTC	TCGAGCACCA	TGAAGTTGCC	TGTTAGGCTG	TTGGTGCTGA	TGTTCTGGAT	1080
	TCCTGCTTCC	AGCAGTGATG	TTGTCATGAC	CCAAACCCCA	CTGTCCAGTC	CTGTCACGCT	1140
	TGGACAACCT	CGGTCCATCT	CTTGACAGATC	TAGTCAGATC	ATTGTACATA	ATAATGGCAA	1200
	CACCTATCTG	GAATGGTACC	AGCAGAGACC	AGGGCAGTCT	CCACGGCTOC	TGATCTACAA	1260
	AGTTTCCAAC	CGATTTTCTG	GGGTCCCAGA	CAGGTTTCAGC	GGCAGTGGAG	CTGGGACAGA	1320
55	TTTCACACTC	AAGATCAGCA	GAGTGGAGGC	TGAGGATGTG	GGAGTTTACT	ACTGCTTCCA	1380
	GGGTTACAT	GTTCCATTCA	CGTTCGGCCA	AGGGACAAAG	TTGGAATCA	AACGTAAGTC	1440
	TCGAGTCTCT	AGATAACCGG	TCAATCGATT	GGAAATCTAA	ACTCTGAGGG	GCTCGGATGA	1500
	CGTGGCCATT	CTTTGCCTAA	AGCATTGAGT	TTACTGCAAG	GTCAGAAAAG	CATGCAAAGC	1560
	CCTCAGAATG	GCTGCAAAGA	GCTCCAACAA	AACAATTTAG	AACTTTATTA	AGGAATAGGG	1620

	GGAAGCTAGG	AAGAAACTCA	AAACATCAAG	ATTTTAAATA	CGCTTCTTGG	TCTCCTTGCT	1680
	ATAATTATCT	GGGATAAGCA	TGCTGTTTTT	TGTCTGTCCC	TAACATGCCC	TTATCCGCAA	1740
	ACAACACACC	CAAGGGCAGA	ACTTTGTTAC	TTAAACACCA	TCCTGTTTGC	TTCTTTCTCT	1800
5	AGGAACTGTG	GCTGCACCAT	CTGTCTTCAT	CTTCCCGCCA	TCTGATGAGC	AGTTGAAATC	1860
	TGGAAGTGCC	TCTGTTGTGT	GCCTGCTGAA	TAACCTCTAT	CCCAGAGAGG	CCAAAGTACA	1920
	GTGGAAGGTG	GATAACGCCC	TCCAATCGGG	TAACCTCCAG	GAGAGTGTC	CAGAGCAGGA	1980
	GAGCAAGGAC	AGTACCTACA	GCCTCAGCAG	CACCTGACG	CTGAGCAAAG	CAGACTACGA	2040
	GAAACACAAA	GTCTACGCCT	GCGAAGTCAC	CCATCAGGGC	CTGAGCTCGC	CCGTACACAA	2100
	GAGCTTCAAC	AGGGGAGAGT	GTTAGAGGGA	GAAGTGCCCC	CACCTGCTCC	TCAGTTCCAG	2160
10	CCTGACCCCC	TCCCATCCTT	TGGCCTCTGA	CCCTTTTTC	ACAGGGGACC	TACCCCTATT	2220
	GCGGTCTCTC	AGCTCATCTT	TCACCTCACC	CCCCTCTCTC	TCCTTGCTCT	TAATTATGCT	2280
	AATGTTGGAG	GAGAATGAAT	AAATAAAGTG	AATCTTTGCA	CCTGTGGTTT	CTCTCTTTCC	2340
	TCATTTAATA	ATTATTATCT	GTTGTTTTAC	CAACTACTCA	ATTTCTCTTA	TAAGGGACTA	2400
	AATGTTAGT	CATCCTAAGG	CACGTAACCA	TTTATAAAAA	TCATCCTTCA	TTCTATTTTA	2460
15	CCCTATCATC	CTCTGCAAGA	CAGTCCTCCC	TCAAACCCAC	AAGCCTTCTG	TCCTCACAGT	2520
	CCCCTGGGCC	ATGGTAGGAG	AGACTTGCTT	CCTTGTTTTT	CCCTCCTCAG	CAAGCCCTCA	2580
	TAGTCCTTTT	TAAGGGTGAC	AGTCTTACA	GTCATATATC	CTTTGATTCA	ATTCCCTGAG	2640
	AATCAACCAA	AGCAAATTTT	TCAAAGAAG	AAACCTGCTA	TAAAGAGAAT	CATTCATTGC	2700
	AACATGATAT	AAAATAACAA	CACAATAAAA	GCAATTAAAT	AAACAAACAA	TAGGGAAATG	2760
20	TTTAACTTCA	TCATGGTACT	TAGACTTAAT	GGAATGTCAT	GCCTTATTTA	CATTTTAAAA	2820
	CAGGTACTGA	GGGACTCCTG	TCTGCCAAGG	GCCGTATTGA	GTACTTTCCA	CAACCTAATT	2880
	TAATCCACAC	TATACTGTGA	GATTAAAAAC	ATTCAATAAA	ATGTTGCAAA	GGTCTATATA	2940
	AGCTGAGAGA	CAAAATATAT	CTATAACTTA	GCAATCCAC	TTCTAGATGA	CTGAGTGTCC	3000
	CCACCCACCA	AAAAACTATG	CAAGAATGTT	CAAAGCAGCT	TTATTTACAA	AAGCCAAAAA	3060
25	TTGGAAATAG	CCCGATTGTC	CAACAATAAA	ATGAGTTATT	AAACTGTGGT	ATGTTTATAC	3120
	ATTAGAATAC	CCAATGAGGA	GAATTAACAA	GCTACAACCT	TACCTACTCA	CACAGATGAA	3180
	TCTCATAAAA	ATAATGTTAC	ATAAGAGAAA	CTCAATGCAA	AAGATATGTT	CTGTATGTTT	3240
	TCATCCATAT	AAAGTTCAAA	ACCAGGTAAA	AAATAAGTTA	GAAATTTGGA	TGGAAATTAC	3300
	TCTTAGCTGG	GGGTGGGCGA	GTTAGTGCCT	GGGAGAAGAC	AAGAAGGGGC	TTCTGGGGTC	3360
30	TTGGTAATGT	TCTGTTCTCT	GTGTGGGGTT	GTGAGTTTAT	GATCTGTGCA	CTGTTCTGTA	3420
	TACACATTAT	GCTTCAAAAT	AACTTCACAT	AAAGAACATC	TTATACCCAG	TTAATAGATA	3480
	GAAGAGGAAT	AAGTAATAGG	TCAAGACCAA	CGCAGCTGGT	AAGTGGGGGC	CTGGGATCAA	3540
	ATAGCTACCT	GCCTAATCCT	GCCCWCTTGA	GCCCTGAATG	AGTCTGCCTT	CCAGGGCTCA	3600
	AGGTGCTCAA	CAAAACAACA	GGCCTGCTAT	TTTCTTGCCA	TCTGTGCCCT	GTTTGGCTAG	3660
35	CTAGGAGCAC	ACATACATAG	AAATTAAATG	AAACAGACCT	TCAGCAAGGG	GACAGAGGAC	3720
	AGAATTAACC	TTGCCCAGAC	ACTGGAACCC	CATGTATGAA	CACTCACATG	TTTGGGAAGG	3780
	GGGAAGGGCA	CATGTAAATG	AGGACTCTTC	CTCATCTTAT	GGGGCACTCT	GGCCCTGCCC	3840
	CTCTCAGCTA	CTCATCCATC	CAACACACCT	TTCTAAGTAC	CTCTCTCTGC	CTACACTCTG	3900
	AAGGGGTTCA	GGAGTAACTA	ACACAGCATC	CCTTCCCTCA	AATGACTGAC	AATCCCTTTG	3960
40	TCCTGCTTTG	TTTTTCTTTT	CAGTCAGTAC	TGGGAAAGTG	GGAAGGACA	GTCAATGAGA	4020
	AACTGCTCAA	GGAAGCACCT	TGCCCTTCTG	CCTCTTGAGA	ATGTTGATGA	GTATCAAATC	4080
	TTTCAAACCT	TGGAGGTTTG	AGTAGGGGTG	AGACTCAGTA	ATGTCCTTTC	CAATGACATG	4140
	AACTTGCTCA	CTCATCCCTG	GGGGCCAAAT	TGAACAATCA	AAGGAGGGCA	TAATCCAGTT	4200
	ATGAATTCCT	GCGGCCGCTT	GCTAGCTTCA	CGTGTGGGAT	CCAACGCGGG	AAGGGCCCTA	4260
45	TTCTATAGTG	TCACCTAAAT	GCTAGAGCTC	GCTGATCAGC	CTCGACTGTG	CCTTCTAGTT	4320
	GCCAGCCATC	TGTTGTTTGC	CCCTCCCCCG	TGCCTTCCTT	GACCTTGCAA	GGTGCCACTC	4380
	CCACTGTCTT	TTCTTAATAA	AATGAGGAAA	TTGCTCGCA	TTGTCTGAGT	AGGTGTCTAT	4440
	CTATTCTGGG	GGGTGGGGTG	GGGCAGGACA	GCAAGGGGGA	GGATTGGGAA	GACAATAGCA	4500
	GGCATGCTGG	GGATGCGGTG	GGCTCTATGG	CTTCTGAGGC	GGAAAGAACC	AGCTGGGGCT	4560
50	CTAGGGGGTA	TCCCCACGCG	CCCTGTAGCG	GCGCATTAAG	CGCGGCGGGT	GTGGTGGTTA	4620
	CGCGCAGCGT	GACCGCTACA	CTTGCCAGCG	CCCTAGCGCC	CGCTCCTTTC	GCTTCTTCTC	4680
	CTTCCTTTCT	CGCCACGTTT	GCCGGGCCTC	TCAAAAAAGG	GAAAAAAGC	ATGCATCTCA	4740
	ATTAGTCAGC	AACCATAGTC	CCGCCCCCTA	CTCCGCCCCA	CCCGCCCCCT	ACTCCGCCCA	4800
	GTTCCGCCCA	TCTCCGCCCC	CATGGCTGAC	TAATTTTTTT	TATTTATGCA	GAGGCCGAGG	4860
55	CCGCCTCGGC	CTCTGAGCTA	TTCCAGAAGT	AGTGAGGAGG	CTTTTGTGGA	GGCTTAGGCT	4920
	TTTGCAAAAA	GCTTGACACG	CTCAGGGCTG	CGATTTCGCG	CCAAACTTGA	CGGCAATCCT	4980
	AGCGTGAAGG	CTGGTAGGAT	TTTATCCCCG	CTGCCATCAT	GGTTCCGACCA	TTGAACTGCA	5040
	TCGTGCGCGT	GTCCCAAAAT	ATGGGGATTG	GCAAGAACGG	AGACCTACCC	TGGCTCCCGC	5100
	TCAGGAACGA	GTTCAAGTAC	TTCCAAAGAA	TGACCACAAC	CTCTTCAGTG	GAAGGTAAAC	5160

	AGAATCTGGT	GATTATGGGT	AGGAAAACCT	GGTTCTCCAT	TCCTGAGAAG	AATCGACCTT	5220
	TAAAGGACAG	AATTAATATA	GTTCTCAGTA	GAGAACTCAA	AGAACCACCA	CGAGGAGCTC	5280
	ATTTTCTTGC	CAAAAGTTTG	GATGATGCCT	TAAGACTTAT	TGAACAACCG	GAATTGGCAA	5340
5	GTAAAGTAGA	CATGGTTTGG	ATAGTCGGAG	GCAGTTCTGT	TTACCAGGAA	GCCATGAATC	5400
	AACCAGGCCA	CCTTAGACTC	TTTGTGACAA	GGATCATGCA	GGAATTTGAA	AGTGACACGT	5460
	TTTTCCCAGA	AATTGATTTG	GGGAAATATA	AACCTCTCCC	AGAATACCCA	GGCGTCCTCT	5520
	CTGAGGTCCA	GGAGGAAAAA	GGCATCAAGT	ATAAGTTTGA	AGTCTACGAG	AAGAAAGACT	5580
	AACAGGAAGA	TGCTTTCAAG	TTCTCTGCTC	CCCTCTTAAA	GCTATGCATT	TTTATAAGAC	5640
	CATGGGACTT	TTGCTGGCTT	TAGATCTCTT	TGTGAAGGAA	CCTTACTTCT	GTGGTGTGAC	5700
10	ATAATTGGAC	AAACTACCTA	CAGAGATTTA	AAGCTCTAAG	GTAAATATAA	AATTTTTTAA	5760
	TGTATAATGT	GTTAAACTAC	TGATTCTAAT	TGTTTGTGTA	TTTTAGATTG	CAACCTATGG	5820
	AACTGATGAA	TGGGAGCAGT	GGTGAATGTC	CTTTAATGAG	GAAAACCTGT	TTTGCTCAGA	5880
	AGAAATGCCA	TCTAGTGATG	ATGAGGCTAC	TGCTGACTCT	CAACATTCTA	CTCCTCCAAA	5940
	AAAGAAGAGA	AAGGTAGAAG	ACCCCAAGGA	CTTTCCTTCA	GAATTGCTAA	GTTTTTTGAG	6000
15	TCATGCTGTG	TTTAGTAATA	GAACCTTTGC	TTGCTTTGCT	ATTTACACCA	CAAAAGGAAA	6060
	AGCTGCACCTG	CTATACAAGA	AAATTATGGA	AAAATATTCT	GTAACCTTTA	TAAGTAGGCA	6120
	TAACAGTTAT	AATCATAACA	TACTGTTTTT	TCTTACTCCA	CACAGGCATA	GAGTGTCTGC	6180
	TATTAATAAC	TATGCTCAAA	AATGTGTGAC	CTTTAGCTTT	TTAATTGTGA	AAGGGGTTAA	6240
	TAAGGAATAT	TTGATGTATA	GTGCCCTTGAC	TAGAGATCAT	AATCAGCCAT	ACCACATTTG	6300
20	TAGAGGTTTT	ACTTGCTTTA	AAAAACCTCC	CACACCTCCC	CCTGAACCTG	AAACATAAAA	6360
	TGAATGCAAT	TGTTGTTGTT	AACCTGTTTA	TTGCAGCTTA	TAATGGTTAC	AAATAAAGCA	6420
	ATAGCATCAC	AAATTTTACA	AATAAAGCAT	TTTTTTCACT	GCATTCTAGT	TGTGGTTTGT	6480
	CCAAACTCAT	CAATGTATCT	TATCACTGCT	GGATCGGCTG	GATGATCCTC	CAGCGCGGGG	6540
	ATCTCATGCT	GGAGTTCTTC	GCCCACTCCA	ACTTGTTTAT	TGCAGCTTAT	AATGGTTACA	6600
25	AATAAAGCAA	TAGCATCACA	AATTTTACAA	ATAAAGCATT	TTTTTCACTG	CATTCTAGTT	6660
	GTGGTTTGTG	CAAACCTATC	AATGTATCTT	ATCATGTCTG	TATACCGTCG	ACCTCTAGCT	6720
	AGAGCTTGGC	GTAATCATGG	TCATAGCTGT	TTCCTGTGTG	AAATTGTTAT	CCGCTCACAA	6780
	TTCCACACAA	CATACGAGCC	GGAAGCATAA	AGTGTAAAGC	CTGGGGTGCC	TAATGAGTGA	6840
	GCTAACTCAC	ATTAATTGCG	TTGCGCTCAC	TGCCCGCTTT	CCAGTCGGGA	AACCTGTCTG	6900
30	GCCAGCTGCA	TTAATGAATC	GGCCAACGCG	CGGGGAGAGG	CGGTTTGCGT	ATTGGGCGCT	6960
	CTTCCGCTTC	CTCGCTCACT	GACTCGCTGC	GCTCGGTCTG	TCGGGTGCGG	CGAGCGGTAT	7020
	CAGCTCACTC	AAAGGCGGTA	ATACGGTTAT	CCACAGAATC	AGGGGATAAC	GCAGGAAAGA	7080
	ACATCTGAGC	AAAAGGCCAG	CAAAAGGCCA	GGAACCGTAA	AAAGGCCGCG	TTGCTGGCGT	7140
	TTTTTCATAG	GCTCCGCCCC	CCTGACGAGC	ATCACAAAAA	TCGACGCTCA	AGTCAGAGGT	7200
35	GGCGAAACCC	GACAGGACTA	TAAAGATACC	AGGCGTTTCC	CCCTGGAAGC	TCCCTCGTGC	7260
	GCTCTCCTGT	TCCGACCCTG	CCGCTTACCG	GATACCTGTC	CGCCTTTCTC	CCTTCGGGAA	7320
	GCGTGCGCCT	TTCTCAATGC	TCACGCTGTA	GGTATCTCAG	TTCGGTGTAG	GTCGTTCTGCT	7380
	CCAAGCTGGG	CTGTGTGCAC	GAACCCCCCG	TTCAGCCCGA	CCGCTGCGCC	TTATCCGGTA	7440
	ACTATCGTCT	TGAGTCCAAC	CCGGTAAGAC	ACGACTTATC	GCCACTGGCA	GCAGCCACTG	7500
40	GTAACAGGAT	TAGCAGAGCG	AGGTATGTAG	GCGGTCTCTAC	AGAGTTCTTG	AAGTGGTGGC	7560
	CTAACTACGG	CTACACTAGA	AGGACAGTAT	TTGGTATCTG	CGCTCTGCTG	AAGCCAGTTA	7620
	CCTTCGGAAA	AAGAGTTGGT	AGCTCTTGAT	CCGGCAAAACA	AACCACCGCT	GGTAGCGGTG	7680
	GTTTTTTTTGT	TTGCAAGCAG	CAGATTACGC	GCAGAAAAAA	AGGATCTCAA	GAAGATCCTT	7740
	TGATCTTTTC	TACGGGGTCT	GACGCTCAGT	GGAACGAAAA	CTCACGTTAA	GGGATTTTGG	7800
45	TCATGAGATT	ATCAAAAAGG	ATCTTCACCT	AGATCCTTTT	AAATTAAAAA	TGAAGTTTAA	7860
	AATCAATCTA	AAGTATATAT	GAGTAAACTT	GGTCTGACAG	TTACCAATGC	TTAATCAGTG	7920
	AGGCACCTAT	CTCAGCGATC	TGTCTATTTT	GTTTCATCCAT	AGTTGCCTGA	CTCCCGTCTG	7980
	TGTAGATAAC	TACGATACGG	GAGGGCTTAC	CATCTGGCCC	CAGTGCTGCA	ATGATACCGC	8040
	GAGACCCACG	CTCACCGGCT	CCAGATTTAT	CAGCAATAAA	CCAGCCAGCC	GGAAGGGCCG	8100
50	AGCGCAGAAG	TGGTCCTGCA	ACTTTATCCG	CCTCCATCCA	GTCTATTAAT	TGTTGCCGGG	8160
	AAGCTAGAGT	AAGTAGTTTC	CCAGTTAATA	GTTTGCAGCA	CGTTGTGCGC	ATTGCTACAG	8220
	GCATCGTGGT	GTCACGCTCG	TCGTTTGGTA	TGGCTTCATT	CAGCTCCGGT	TCCCAACGAT	8280
	CAAGGCGAGT	TACATGATCC	CCCATGTTGT	GCAAAAAAGC	GGTTAGCTCC	TTCGGTCCTC	8340
	CGATCGTTGT	CAGAAGTAAG	TTGGCCGCGA	TGTATCACT	CATGGTTATG	GCAGCACTGC	8400
55	ATAATTCTCT	TACTGTCTATG	CCATCCGTAA	GATGCTTTTC	TGTACTGGT	GAGTACTCAA	8460
	CCAAGTCATT	CTGAGAATAG	TGTATGCGGC	GACCGAGTTG	CTCTTGCCCG	GCGTCAATAC	8520
	GGGATAATAC	CGCGCCACAT	AGCAGAACTT	TAAAAGTGCT	CATCATGGGA	AAACGTTCTT	8580
	CGGGGCGAAA	ACTCTCAAGG	ATCTTACCGC	TGTTGAGATC	CAGTTTGATG	TAACCCACTC	8640
	GTGCACCCAA	CTGATCTTCA	GCATCTTTTA	CTTTCACCAG	CGTTTCTGGG	TGAGCAAAAA	8700

CAGGAAGGCA AAATGCCGCA AAAAAGGGAA TAAGGGCGAC ACGGAAATGT TGAATACTCA 8760
TACTCTTCCT TTTTCAATAT TATTGAAGCA TTTATCAGGG TTATTGTCTC ATGAGCGGAT 8820
ACATATTTGA ATGTATTTAG AAAAATAAAC AAATAGGGGT TCCGCGCACA TTTCCCCGAA 8880
AAGTGCCACC TGACGTC 8897

B

08905293 080197